LITERATURES

of

ALCHEMY

in

MEDIEVAL

and

EARLY

MODERN

ENGLAND

EOIN BENTICK

LITERATURES OF ALCHEMY
IN MEDIEVAL AND
EARLY MODERN ENGLAND

Literatures of Alchemy in
Medieval and Early Modern England

Eoin Bentick

Contents

Illustrations

Acknowledgements

Editorial Practice

When transcribing manuscripts and early printed texts, I have italicised any expanded contractions and added my own punctuation. When transcribing a whole poem, I have included line numbers for ease of reference. The spellings of titles of medieval works have been modernised. All translations are my own unless otherwise stated. I have ignored the extensive italicisation of Elias Ashmole's *Theatrum chemicum britannicum*. All quotations from Geoffrey Chaucer will be from Larry D. Benson et al. (eds), *The Riverside Chaucer*, 3rd edn (Oxford: Oxford University Press, 2008). All quotations from the Bible will be from the Vulgate and the Douay-Rheims translation.

Abbreviations

BL	London, British Library
BodL	Oxford, Bodleian Library
DIMEV	*Digital Index of Middle English Verse*, ed. Linne R. Mooney et al. (2010); digitisation and expansion of Julia Boffey and A. S. G. Edwards (eds), *A New Index of Middle English Verse* (London: The British Library, 2005), www.dimev.net [accessed 11 July 2021]
EETS	Early English Text Society
ES	extra series
OS	original series
MED	*Middle English Dictionary*, ed. Robert E. Lewis et al. (Ann Arbor, MI: University of Michigan Press, 1952–2001); online edition in *Middle English Compendium*, ed. Frances McSparran et al. (Ann Arbor, MI: University of Michigan Library, 2000–18), https://quod.lib.umich.edu/m/middle-english-dictionary/dictionary [accessed 11 July 2021]
ODNB	*Oxford Dictionary of National Biography*, various editors (New York: Oxford University Press, 1885–2004), www.oxforddnb.com/ [accessed 11 July 2021]
OED	*Oxford English Dictionary*, ed. James Murray et al., 3rd edn (Oxford: Oxford University Press, 2004), www.oed.com [accessed 11 July 2021]
PMLA	*Publications of the Modern Language Association of America*

Introduction

Enim dicam ut fatuos derideam, sapientes doceam […] Ideo Deo supplico ut det mihi intellectum et viam ut celem stultis et fatuis et declarem sapientibus.[1]

Alchemy is difficult to understand. Like any technical language, alchemy has its jargon, but throughout history alchemical authors have been particularly self-conscious about hiding their 'secrets' (by which term they invariably referred to alchemical knowledge). What were these powerful secrets that needed to be so well guarded? As historians of science have convincingly revealed – with renewed interest since the turn of the millennium – the answer to this question is not as metaphysically or psychologically interesting as one might hope.[2] For the most part, alchemists, from third-century

---

[1] I shall speak to laugh at the foolish and to teach the wise […] I ask God to grant me the wit and the way to hide [the secret] from the stupid and foolish whilst declaring it to the wise. Pseudo-Arnold of Villanova, *Liber de secretis naturae, in Les oeuvres alchimique attribuées à Arnaud de Villeneuve*, ed. Antoine Calvet (Paris: S.É.H.A., 2011), p. 490.

[2] Jennifer Rampling, *The Experimental Fire: Inventing English Alchemy, 1300–1700* (Chicago, IL: Chicago University Press, 2020); Lawrence Principe, *The Secrets of Alchemy* (Chicago, IL: University of Chicago Press, 2013); Sébastien Moureau, '*Elixir atque fermentum*: New Investigations about the Link between Pseudo-Avicenna's Alchemical *De anima* and Roger Bacon: Alchemical and Medical Doctrines', *Traditio* 68 (2013), pp. 277–325; Peter Grund, '*Misticall Wordes and Names Infinite*': *An Edition and Study of Humfrey Lock's Treatise on Alchemy* (Tempe, AZ: Arizona Center for Medieval and Renaissance Studies, 2011); Tara Nummedal, *Alchemy and Authority in the Holy Roman Empire* (Chicago, IL: Chicago University Press, 2007); William Newman, *Promethean Ambitions: Alchemy and the Quest to Perfect Nature* (Chicago, IL: University of Chicago Press, 2004); Lawrence Principe and William Newman, *Alchemy Tried in the Fire: Starkey, Boyle and the Fate of Helmontian*

Alexandria to present-day internet fora, have been using obscure and metaphorical language to communicate laboratory procedures. Whilst the heart of the alchemical promise has always been the transmutation of base metals into gold – and later the creation of the elixir of life – the realities of alchemy were necessarily more mundane and varied, altering with technological advancements. The metallurgical, pharmaceutical, and chemical operations hidden behind the murky language of alchemy continue to be deciphered by historians of alchemy. Despite these discoveries and despite repeated attempts to dispel misconceptions, alchemy has not lost its associations with the mystical, the esoteric and the occult. In this book, I argue that alchemy's mystical reputation lingers because its literature is not only read by the *sapientes*, those who have the chemical acumen to decipher its operations, but it is also read by the *fatuos*, interested readers who would not have the faintest idea how to 'wedde m*ercur*y to m*ercur*y wyth hyr wyfe',[3] or indeed how to 'pone unam unciam de elixero rubeo super 1,000,000 femine pregnantis de puella' (put one ounce of the red elixir on one million women who are pregnant with girls),[4] let alone how to 'exalt [the] medicine, / By hanging him *in balneo vaporoso*; / And giving him solution; then congeal him; / And then dissolve him, then again congeal him.'[5] It was these readers, alienated from the practice of alchemy but interested in its language nonetheless, who would go on to foster the myths surrounding the art.

Chymistry (Chicago, IL: Chicago University Press, 2002); Anthony Grafton and William Newman, *Secrets of Nature: Astrology and Alchemy in Early Modern Europe* (Cambridge, MA: MIT Press, 2001); Michela Pereira, '*Mater medicinarum*: English Physicians and the Alchemical Elixir in the Fifteenth Century', in *Medicine from the Black Death to the French Disease*, ed. Roger French et al. (Aldershot, Ashgate, 1998), pp. 26–52. Lynn Thorndike and J. R. Partington were the great initiators of this materialist approach to alchemy: Lynn Thorndike, *History of Magic and Experimental Science*, 8 vols (New York: Columbia University Press, 1923–58); J. R. Partington, *A Short History of Chemistry* (London and New York: Macmillan, 1937).

3   BL, MS Harley 2407, folio 2v.
4   Pseudo-Arnold of Villanova, *De secretis*, p. 520.
5   Ben Jonson, *The Alchemist*, in *The Alchemist and Other Plays*, ed. Gordon Campbell (Oxford: Oxford University Press, 2008), act 2.3, lines 103–6.

Carl Jung's 1944 *Psychologie und Alchemie* has been instrumental in cementing the notion that the *true* meaning of alchemy was an expression of universal human truths:

> Whereas the Church's great buttress is the imitation of Christ, the alchemist, without realizing it and certainly without wanting it, easily fell victim, in the loneliness and obscure problems of his work, to the promptings and unconscious assumptions of his own mind, since, unlike the Christians, he had no clear and unmistakable models on which to rely. The authors he studied provided him with symbols whose meaning he thought he understood in his own way; but in reality they touched and stimulated his unconscious.[6]

Jung believed that the medieval Church's obsession with worldly power and money had led to a crisis in the spiritual world of Christianity. He saw a separation between alchemy and Christianity, where the mystical language of alchemy took the place of staid Christian theology; in answer to the dearth of spiritual engagement that he saw in the Church, Jung surmised that the language of alchemy provided the requisite personal, psychological engagement with the universe. Despite presenting alchemy as an ahistorical constant from third-century Alexandria to fifteenth-century England, Jung's psychological reading of the language of alchemy continues to appeal to readers who are not particularly interested in chemical procedures. According to Jung, the language of alchemy – with its narratives of perfection and immortality, spoken in the language of both sex and religion – expresses the most fundamental human desires for wholeness and divine proximity. The attraction of Jung's metaphysical conception of alchemy butts up against the practical realities of the art. Evidence of medieval readers understanding alchemy as a purely spiritual exercise is, unfortunately, lacking. What Jung's understanding of alchemy does show, however, especially through its durability in the field of psychology and in popular culture, is how fruitful creative interpretations of alchemy can be.[7]

---

[6] Carl Jung, *Psychology and Alchemy*, trans. R. F. C. Hull (Princeton, NJ: Princeton University Press, 1968), p. 35.

[7] For Jungian readings of alchemical literature and imagery, see Stanislas Klossowski de Rola, *Alchemy: The Secret Art* (London: Thames & Hudson, 2013); Alexander Roob, *Alchemy and Mysticism*, trans. Shaun Whiteside (Cologne: Taschen, 1997); Titus Burckhardt, *Alchemy: Science of the*

Alchemy was born in third-century Alexandria, the meeting of Egyptian metallurgy and Greek philosophy. The earliest surviving proto-alchemical texts are collections of metallurgical procedures known as the Leiden and Stockholm Papyri.[8] These recipe-books, written with *Decknamen* (codenames) so that trade secrets were not revealed, contain none of the philosophical material that entered into the language of alchemy around this period.[9] With recipes for how to make things look like gold, silver and even purple, they are vestiges of that metallurgical practice for which the ancient Egyptians are famed. By around 300 CE, texts were being written that combined this practical metallurgical skill with the ideas of Plato, Aristotle, their predecessors and their followers. One of the earliest lights of alchemy, and one who helped to establish the allegorical style of its language, was Zosimos of Panopolis. In his writings, Zosimos presented a Platonic view of the universe in which every physical thing is connected by a single 'nature' that continuously changes its outward appearance whilst staying fundamentally the same.[10] Alchemy,

---

Cosmos, Science of the Soul, trans. William Stoddart (Shaftesbury: Element, 1986); Charles Méla, 'Le Miroir Périlleux ou l'alchimie de la rose', *Europe* 654 (1983), pp. 72–83. For psychologists engaging with Jung's conception of alchemy, see Robert Romanyshyn, *The Wounded Researcher: Research with Soul in Mind* (New Orleans, LA: Spring Journal Books, 2007); Thom F. Cavalli, *Alchemical Psychology: Old Recipes for Living in a New World* (New York: TarcherPerigee, 2002).

8　　Earle Radcliffe Caley (ed. and trans.), 'The Leyden Papyrus X: An English Translation with Brief Notes', *Journal of Chemical Education* 3 (1926), pp. 1149–1166; Earle Radcliffe Caley (ed. and trans.), 'The Stockholm Papyrus: An English Translation with Brief Notes', *Journal of Chemical Education* 4 (1927), pp. 979–1002.

9　　Julius Ruska and Eilhard Wiedemann, 'Alchemistische Decknamen', *Sitzungsberichten der Physikalisch-Medizinischen Sozietät* 56 (1924), pp. 17–35.

10　Zosimos of Panopolis, 'Le Divin Zosime: sur la vertu', in *Collection des anciens alchimistes grecs*, ed. and trans. Marcellin Berthelot, 3 vols (London: Holland Press, 1963), vol. 3, pp. 107–12. For an exploration of Zosimos's Gnostic and Hermetic influences, see Kyle A. Fraser, 'Zosimos of Panopolis and the Book of Enoch: Alchemy as Forbidden Knowledge', *Aries* 4 (2004), pp. 125–47. See also, Albert De Jong, 'Zosimus of Panopolis', *Dictionary of Gnosis and Western Esotericism*, ed. Wouter J. Hangegraaf et al. (Leiden: Brill, 2006), pp. 1183–6.

according to Zosimos, was the research into and the recreation of the way in which nature transforms itself (ὑποφεύγει ἡ φύσις).[11] It just so happened that one of the ways that nature transformed itself involved turning base metals into gold, which was a rather useful thing to know how to do.

Alongside grand proclamations about matter, nature and how things change, Zosimos wrote short allegorical tracts, communicating alchemical information behind extended metaphors. In the *Visions of Zosimos* (or *The Divine Zosimos on Virtue*), the narrator meets a sacrificial priest at a cup-shaped altar. The priest describes how he has been changed from a body into a spirit:

> Καὶ ἀποδερματώσας τὴν κεφάλήν μου τῷ ξίφει τῷ ὑπ᾽ αὐτοῦ κρατουμένῳ, τὰ ὀστέα ταῖς σαρξὶ συνέπλεξεν, καὶ τῷ πυρὶ τῷ διαχείρως κατέκαιεν, ἔως ἂν ἔμαθον μετασωματούμενος πνεῦμα γενέσθαι.[12]

> And flaying my head with the sword which he [one who came headlong in the morning] held fast, he mingled my bones with my flesh and burned them in the fire of the treatment, until I learnt by the transformation of the body to become spirit.

The narrator continues to describe how the priest's eyes become bloody as he vomits up his own flesh, causing the narrator to wake up. When he goes back to sleep, the narrator dreams the same dream and yet the priest has become a man of copper holding a leaden tablet. On waking a second time, Zosimos embarks on a series of realisations, such as 'δίδουσιν οἱ ἄστερες, καὶ λαμβάνει τὰ ἄνθη' (the stars give and the flowers receive) and 'γὰρ φύσις στρεφομένη εἰς ἑαυτὴν στρέφεται' (nature being turned upon itself is transformed).[13] After a strange imperative concerning the sacrificing and flaying of a snake, Zosimos finally declares that the copper man (the priest who vomits his own flesh) should not be seen as a man of copper for he has changed into a man of silver and 'ὅν μετ᾽ ὀλίγον ἐὰν θελήσῃς ἔξεις χρυσάνθρωπον' (after a little time you will have him

---

[11] Zosimos of Panopolis, 'Le Divin Zosime', p. 108; trans. F. Sherwood Taylor in 'The Visions of Zosimos', *Ambix* 1 (1937), p. 89.

[12] Zosimos of Panopolis, *Le Divin Zosime*, p. 108; Taylor, 'Visions', p. 89.

[13] Ibid. pp. 110–12; p. 90.

as a man of gold).[14] Each image in the *Visions* clearly symbolises a certain stage in the process of turning base metals into gold. However, to what exactly each image refers is not at all clear. This is not the alchemy of the Leiden and Stockholm Papyri; whilst the papyri were concerned with making metals look like other metals, Zosimos was concerned with their actual transmutation. By the time that Zosimos was writing, alchemy had moved from simile to metaphor. The desire was no longer to make metals *like* other metals, but rather to work at making metals *become* other metals.

Although alchemy had a long history in Greek from the third to the eighth centuries,[15] it is in Arabic, into which language Greek alchemical texts were translated, that alchemy came to its maturity.[16] Arabic texts on alchemy were based on an Aristotelian model of the universe. Like Plato, Aristotle believed that the four Empedoclean elements, earth, water, air and fire, existed as a combination of the four principles: hot, dry, cold and moist.[17] In the *Meteorology*, the foundation text for Arabic alchemy, Aristotle explains that, due to the affinitive properties of the elements, they are interconvertible (i.e. they can change from one to the other):

---

[14] Ibid. p. 112; p. 90.

[15] For examples and studies of Greek alchemical texts, see Taylor, 'The Visions of Zosimos'; Berthelot, *Collection des anciens alchimistes grecs*; Zosimos of Panopolis, *Zosimos of Panopolis on the Letter Omega*, ed. and trans. Howard M. Jackson (Missoula, MT: Scholars Press, 1978); Michèle Mertens, 'Une Scène d'initiation alchimique: La "Lettre d'Isis à Horus"', *Revue de l'histoire des religions* 205 (1988), pp. 3–23; Kyle A. Fraser, 'Zosimos of Panopolis and the Book of Enoch: Alchemy as Forbidden Knowledge', *Aries* 4 (2004), pp. 125–47; Matteo Martelli (ed. and trans.), *The 'Four Books' of Pseudo-Democritus* (Wakefield: Charlesworth Press, 2013).

[16] Dimitri Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early ʿAbbāsid Society (2nd–4th / 8th–10th Centuries)* (London: Routledge, 1998); Benjamin Hallum, 'Zosimus Arabus: The Reception of Zosimos of Panopolis in the Arabic/Islamic World' (PhD dissertation, The Warburg Institute, 2008).

[17] Earth is cold and dry; water is cold and wet; air is hot and wet; fire is hot and dry. Aristotle, *Aristoteles Latinus IX.1: De generatione et corruptione*, ed. Joanna Judycka (Leiden: Brill, 1986), pp. 56–7.

Φαμὲν δὲ πῦρ καὶ ἀέρα καὶ ὕδωρ καὶ γῆν γίγνεσθαι ἐξ ἀλλήλων, καὶ ἕκαστον ἐν ἑκάστῳ ὑπάρχειω τούτων δυνάμει, ὥσπερ καὶ τῶν ἄλλων οἷς ἔν τι καὶ ταὐτὸν ὑπόκειται, εἰς ὃ ἀναλύονται ἔσχατον.[18]

Fire, air, water, earth, we assert, originate from one another, and each of them exists potentially in each, as all things do that can be resolved into a common and ultimate substrate.

This is the basis of all subsequent alchemical theory. The fact that the elements can change from one to the other allows for the possibility that humans can recreate that change. It was through the manipulation of the elements that alchemists could transmute metals.

Elsewhere in the *Meteorology*, Aristotle presents his theory of the earth's exhalations and vapours. He explains that, as the sun heats up the earth, it draws up moisture through evaporation. This moisture is not only drawn from the seas and the surface of the earth, but also from the earth itself. This vapour rises through the earth alongside a smoky exhalation, which is the source of wind. Not all of these exhalations (both vaporous and smoky) reach the surface of the earth. As the dry exhalation rises and is trapped in the crust of the earth, it forms stones such as sulphur. As the moist exhalation rises and is trapped by the stones in the crust of the earth, it forms metals. In the same breath, Aristotle then discusses the notion of internal heat:

Πέψις μὲν οὖν ἐστι τελείωσις ὑπὸ τοῦ φυσικοῦ καὶ οἰκείου ἐκ τῶν ἀντικειμένων παθητικῶν ταῦτα δ᾽ἐστὶν ἡ οἰκεία ἑκάστῳ ὕλη. Ὅταν γὰρ πεφθῇ, τετελείω ταί τε καὶ γέγονεν. Καὶ ἡ ἀρχὴ τῆς τελειώσως ὑπὸ θερμότητος τῆς οἰκείας συμβαίνει, κἄν διά τινος τῶω ἐκτὸς βοηθείας συνεπιτελεσθῇ.[19]

Concoction is a process in which the natural and proper heat of an object perfects the corresponding passive qualities, which

---

[18] Aristotle, *Météorologiques*, ed. and trans. Pierre Louis (Paris: Les Belles Lettres, 1982), vol. 1, book 1, 339a–b, p. 4; trans. E. W. Webster, *Meteorologica*, in *The Works of Aristotle Translated into English*, ed. W. D. Ross (Oxford: Clarendon Press, 1908–52), vol. 3, book 1.3, 399a–b.

[19] Aristotle, *Météorologiques*, vol. 2, book 4, 379b, pp. 35–7. For the debate surrounding the authorship of book four of the *Meteorologica*, see Malcolm Wilson, *Structure and Method in Aristotle's 'Meteorologica': A More Disorderly Nature* (Cambridge: Cambridge University Press, 2013), pp. 8–10. Trans. *Meteorologica*, book 4.2, 379b.

are the proper matter of any given object. For when concoction has taken place we say that a thing has been perfected and has come to be itself. It is the proper heat of a thing that sets up this perfecting, though external influences may contribute in some degree to its fulfilment.

Internal heat, according to Aristotle, causes objects to become their perfect form. However, in the final sentence of the above quotation, he suggests that 'external influences' can help this process. There are a number of questions that arise from this passage: does the 'perfecting' heat relate directly to his previous discussion on metals? If so, what is the perfect form of metals? It was in this uncertainty that early alchemical theorists found room for manoeuvre. The perfect form of metals was, to the alchemist, either gold or silver. Therefore, through the manipulation of external heat, one had the power to 'perfect' metals and bring them to their finished or perfect form: gold or silver. In other words, heating and cooling metals in one's laboratory could transmute base metals into gold by recreating what naturally occurs in the bowels of the earth.

   The two Arabic alchemists who influenced the Latin and Western vernacular traditions of alchemy the most were Jābir ibn Hayyān (c. 721–c. 815) and Muhammad ibn Zakariya al-Rāzī (845–925).[20] The former popularised the mercury/sulphur theory, the most recognisable of alchemical theories in the Latin West;[21] the latter, a physician as well as an alchemist, initiated alchemy's practical foray

---

[20] There are doubts as to the existence of Jābir. The various contradictions between the enormous mass of treatises that bear his name suggest that perhaps the name Jābir was attached to any alchemical treatise that adhered to certain alchemical theories. The practice of attributing texts to authoritative names was endemic amongst alchemists. See Jābir ibn Hayyān, *Names, Natures and Things: The Alchemist Jābir ibn Hayyān and his 'Kitāb al-Ahjār'*, ed. and trans. Syed Nomanul Haq (Dordrecht: Kluwer, 1994), pp. 3–7; William Newman, 'Introduction to the "Geber Problem"', in Paul of Taranto, *The 'Summa perfectionis' of Pseudo-Geber: A Critical Translation and Study*, ed. and trans. William Newman (Leiden: Brill, 1991), pp. 57–108.

[21] As William Newman demonstrates, the sulphur/mercury theory existed before Jābir. Newman cites the eighth-century *Book of the Secret of Creation* by Bālīnas as an example of the theory predating Jābir. William Newman, 'Medieval Alchemy', in *The Cambridge History of Science*, ed.

into the world of medicine and pharmaceutics. Works circulating under the name of Jābir followed Aristotle in stating that metals were formed in the bowels of the earth from a slow process of heating and cooling. This process, such works proclaimed, could then be recreated in an alchemical laboratory. Aristotle's vaporous exhalation was understood to be mercury and his dry and smoky exhalation was understood to be sulphur. Metals, according to Jābir, were formed by a combination of the two substances:

> Metals are all, in essence, composed of mercury combined and coagulated with sulphur […] They differ from one another only because of the difference of their accidental qualities, and this difference is due to the difference of their sulphur, which again is caused by a variation in the soils and in the positions with respect to the heat of the sun.[22]

Different ratios of mercury and sulphur, Jābir states, led to different metals. If one could manipulate the ratio of mercury and sulphur, then one would have the power to transmute metals. The perfect balance of mercury and sulphur (50:50) produced something called the 'elixir' which was 'so rare as to be practically non-existent'.[23] The exact nature of this substance is impossible to glean. Indeed, the exact natures of 'mercury' and 'sulphur', which Jābir takes pains to emphasise are not common quicksilver or brimstone, are also impossible to work out. Both the hermeneutic and the physical search for 'mercury', 'sulphur', and 'elixir' define the alchemical quest for centuries to come. Conversely, al-Rāzī's alchemy is refreshingly practical.[24] Writing just under a century later than Jābir, al-Rāzī incorporates some of the earlier alchemist's theories, and yet his

---

David C. Lindberg and Michael H. Shank (Cambridge: Cambridge University Press, 2013), p. 386.

[22] Jābir ibn Ḥayyān, *Kitāb al-Īḍāḥ* (The Book of Explanation), translated in E. J. Holmyard, 'Jābir ibn Ḥayyān', *Proceedings of the Royal Society of Medicine* 16 (1923), p. 56. Cited and interpolated in John A. Norris, 'The Mineral Exhalation Theory of Metallogenesis in Pre-Modern Mineral Science', *Ambix* 53 (2006), p. 47.

[23] Jābir, *Names, Natures and Things*, p. 152, trans. Haq, p. 184.

[24] Gail Taylor recreates the laboratory operations of al-Rāzī. See Gail Taylor, 'Inside the *Kitab al-Asrar*: The Tools of Reproducibility', in Muhammad ibn Zakariya al-Rāzī, *The Alchemy of al-Rāzī: A Translation of the*

texts contain comparatively little of Jābir's obscurity and philo-
sophical speculation. His major influence in the history of alchemy
was to associate the world of alchemy with the world of medicine.
Whilst metaphors for healing metals had abounded in alchemy
since Greek times, either signifying metallic purification or trans-
mutation (from the idea that gold was the true and healthy state of
all metals), al-Rāzī saw that alchemical distillation methods could
allow for the extraction of medicinal properties from vegetable
substances. Through al-Rāzī, the alchemist became a healer of both
metals and the human body.

   Throughout the twelfth century, alchemy – alongside a consider-
able corpus of scientific material – was translated into Latin, mostly
in the translation hub of Toledo, southern Iberia.[25] It spread from
the Iberian Peninsula to universities across Europe – though never
officially included in the curriculum – and its efficacy was debated
by the likes of Albertus Magnus, Thomas Aquinas, and Roger
Bacon.[26] In the thirteenth century, alchemy took centre stage in a
discussion surrounding the extent to which art could mimic nature.[27]
Whilst alchemy claimed to be able to recreate nature's functions, no
other art had been proven to do so successfully. Combined with the
inherent obscurity of alchemical language, the secrecy with which it
was communicated, and all that is lost and added in translation, the
lack of concrete evidence for successful transmutation began to be
seen by some as testament to mankind's inability to compete with
nature.[28] However, it is important to remember that, whilst there

---

'Book of Secrets', ed. and trans. Gail Taylor (North Charleston, SC: Gail
Taylor, 2015), pp. 41–84.

[25] Charles Burnett, 'The Coherence of the Arabic-Latin Translation Pro-
gram in Toledo in the Twelfth Century', *Science in Context* 14 (2001),
pp. 249–88.

[26] Albertus Magnus, *Liber mineralium* (Oppenheim: Jacob Köbel, 1518); J.
R. Partington, 'Albertus Magnus on Alchemy', *Ambix* 1 (1937), pp. 3–20;
Thomas Aquinas, *In quattor libros sententiarum*, in *Opera Omnia* (Stutt-
gart: Frommann-Holzboog, 1980) vol. 1, p. 145, cited in Barbara Obrist,
'Art et nature dans l'alchimie médiévale', *Revue d'histoire des sciences* 49
(1996): p. 257, n. 138.

[27] Newman, *Promethean Ambitions*, pp. 35–40.

[28] The alchemical text at the heart of the Art/Nature debate was a pseudo-
Aristotelian passage, actually written by the Persian philosopher Avicenna,

were those who questioned the possibility of recreating the alchemy of nature, few denied the natural philosophy that underpinned alchemical theory. The theories of the material – and specifically the mineral – world that were translated into the West from alchemical texts remained current well into the seventeenth century.

As alchemy was assimilated into the canon of Latin scientific literature, the secrets of Nature were incorporated into the Christian cosmos and slowly became the 'archanum Dei' (the secret of God).[29] There was divine agency behind the fact that base metals strove to be 'perfect' gold and silver.[30] The language of alchemy became studded with Christian imagery.[31] Where Jung saw a distinction between alchemy and Christianity, the reality was a twofold incorporation of alchemy into a Christian framework: firstly, alchemists adapted the lore they inherited to accord with Christian creation myths and cosmology; secondly, they used metaphors drawn from Christianity to describe the complex processes of alchemy. Jung's belief in alchemy as a substitute for Christianity is largely based on what he

known as the *Sciant artifices*. Avicenna, *De congelatione et conglutinatione lapidum*, in William R. Newman (ed.), *Summa perfectionis*, pp. 49–51; Newman, *Promethean Ambitions*, pp. 35–79; Obrist, 'Art et nature'.

[29] The phrase 'archanum Dei' appears in a French alchemical poem from the early fifteenth century, which was modelled on *Le Roman de la Rose*: Jean de la Fontaine de Valenciennes, *La Fontaine des amoureux de science*, ed. Antoine du Moulin Masconnois (Lyon: Jean de Tournes, 1547), p. 47. The phrase is also found in large letters at the front of a sixteenth-century alchemical miscellany: London, Wellcome Library MS 537, folio 3r.

[30] Although alchemy was categorically distinct from magic, Keith Thomas' *Religion and the Decline of Magic* is indispensable for the interplay between religion and alternative systems of thought in the early modern period. Keith Thomas, *Religion and the Decline of Magic: Studies in Popular Beliefs in Sixteenth- and Seventeenth-Century England* (London: Weidenfeld & Nicolson, 1971).

[31] Tara Nummedal, 'Alchemy and Religion', pp. 311–22; Barbara Obrist, 'Alchimie et allégorie scripturaire au Moyen Age', *Allégorie des poètes, Allégorie des philosophes: Études sur la poétique et l'herméneutique de l'allégorie de l'Antiquité à la Réforme*, ed. Gilbert Dahan and Richard Goulet (Paris: Vrin, 2005), pp. 245–65; Antoine Calvet (ed.), 'Le *Tractatus parabolicus* de pseudo-Arnaud de Villeneuve', *Chrysopoeia* 5 (1997), pp. 145–71; Barbara Obrist, *Les Débuts de l'imagerie alchimique (XIVe–XVe siècles)* (Paris: Le Sycomore, 1982).

calls the *lapis*-Christ parallel, that is the conflation of the philosophers' stone with Jesus Christ.[32] Whilst the metaphorical power of this comparison between the alchemical *desideratum* and Christ cannot be ignored, it is important to remember that alchemists were not providing an alternative to Christ, but rather acknowledging the similarities between the Son of God and this triune, perfect substance that, itself resurrected from 'dead' metals, had the power to immortalise material things.[33] Alchemy's relationship with Christianity was not controversial; the only reasons given for outlawing alchemical practice in both religious institutions and in the secular world were purely material: abbots, kings and popes did not want their flocks to fritter money away through impotent operations, nor did they want them to undermine their respective institutions through material success.[34]

---

[32] Jung, *Psychology and Alchemy*, pp. 345–431.

[33] Lawrence Principe and William Newman, 'Some Problems with the Historiography of Alchemy', in *Secrets of Nature: Astrology and Alchemy in Early Modern Europe*, ed. William Newman and Anthony Grafton (Cambridge, MA: MIT Press, 2001), pp. 401–8.

[34] Sophie Page, *Magic in the Cloister: Pious Motives, Illicit Interests, and Occult Approaches to the Medieval Universe* (University Park, PA: Pennsylvania State University Press, 2013), pp. 5–8; Wilfred Theisen, 'The Attraction of Alchemy for Monks and Friars in the Thirteenth-Fourteenth Centuries', *American Benedictine Review* 46 (1995), pp. 239–53; Chiara Crisciani, 'The Conception of Alchemy as Expressed in the *Pretiosa Magarita Novella* of Petrus Bonus of Ferrara', *Ambix* 20 (1973), pp. 177–8. For Pope John XXII's decretal forbidding the practice of alchemy, the *Spondent pariter*, see *Corpus juri canonici; in Liber sextus Decretialium D. Bonifacii Papae VIII. Clementis Papae V Constitutiones. Extravagantes tum viginti D. Joannis Papae XXII tum communes*, fol. Lugduni, 1583, *Extravagantes communicum*, lib. v, col. 332; Partington, 'Albertus Magnus on Alchemy', pp. 15–6. For Henry IV's 1403/4 statute, outlawing the practice of alchemy, see London, The National Archives, Statutes of the Realm (5 Hen. IV) cap. IV. Cited in Singer, *Catalogue of Latin and Vernacular Alchemical Manuscripts in Great Britain and Ireland Dating from before the XVI Century* (Brussels: Maurice Lamertin, 1928–31), p. 782, trans. Edgar H. Duncan in 'The Literature of Alchemy and Chaucer's "Canon's Yeoman's Tale": Framework, Theme, and Characters', *Speculum* 43 (1968), p. 634.

This book is not about the history of alchemical theory or procedures. *Literatures of Alchemy* rather focuses on the poets, patrons, novices, sceptics and armchair alchemists who have tried to understand alchemy's obscure language without recourse to a laboratory. I am interested in the hermeneutics of alchemy and the relationship between the 'implied reader' as imagined by alchemical authors and the historical readers who wrote themselves into the manuscripts they owned.[35] My method makes use of the materiality of manuscripts and the marks of their readers alongside close analysis of alchemists' voices in the hope of reimagining the process of becoming enthralled by alchemical language.[36] The question at the heart of this study is: why was difficult alchemical literature so attractive to such a wide range of readers? In his celebrated essay on why good poetry can be difficult, George Steiner defines what he calls 'tactical difficulty', that is purposeful difficulty on behalf of the writer:

> Immediate purchase is denied us. The text yields its force and singularity of being only gradually. In certain fascinating cases, our understanding, however strenuously won, is to remain provisional. There is to be an undecidability at the heart, at what Coleridge called the inner *penetralium* of the poem […] There is a dialectical strangeness in the will of the poet to be understood only step-wise and up to a point. The retention of innermost

[35] Wolfgang Iser, *The Implied Reader: Patterns of Communication in Prose Fiction from Bunyan to Beckett* (Baltimore, MD: The Johns Hopkins University Press, 1974).

[36] Excellent studies on the readerships of medieval literature include Daniel Sawyer, *Reading English Verse in Manuscript, c. 1350–c. 1500* (Oxford: Oxford University Press, 2020); Margaret Connolly, *Sixteenth-Century Readers, Fifteenth-Century Books* (Cambridge: Cambridge University Press, 2019); Kathleen L. Scott, 'Evidence of Book Ownership by English Merchants in the Later Middle Ages', in *Makers and Users of Medieval Books: Essays in Honour of A. S. G. Edwards*, ed. Carol M. Meale and Derek Pearsall (Cambridge: D. S. Brewer, 2014), pp. 150–77; Julia Boffey, *Manuscript and Print in London, c. 1475–1530* (London: British Library, 2012); Daniel Wakelin, *Humanism, Reading, and English Literature 1430–1530* (Oxford: Oxford University Press, 2007); Lisa Jardine and Anthony Grafton, '"Studied for Action": How Gabriel Harvey Read His Livy', *Past & Present* 129 (1990), pp. 30–78.

meaning is, inevitably, subverted, and ironized by the mere fact that the poet has chosen to make his text public.[37]

Steiner's comments on 'tactical difficulty' and the strangeness involved in revealing and retaining meaning are well supplemented by the musings of Wolfgang Iser on the role of readers in creating meaning:

> If the reader were given the whole story, and there were nothing left for him to do, then his imagination would never enter the field, the result would be the boredom which inevitably rises when everything is laid out cut and dried before us. A literary text must therefore be conceived in such a way that it will engage the reader's imagination in the task of working things out for himself, for reading is only a pleasure when it is active and creative. In this process of creativity, the text may either not go far enough, or may go too far, so we may say that boredom and overstrain form the boundaries beyond which the reader will leave the field of play.[38]

Steiner and Iser identify the need for good literature to be a bit tricky, for something to be held at bay so that readers can insert something of their own. In this book, we encounter those who have been particularly creative with the interpretative gaps left by alchemical authors as well as those who have decided to 'leave the field of play' due to the impenetrability of alchemy's language. The meaning of the philosophers' stone, of alchemy more generally, is always provisional. There can be no 'inner *penetralium*' of alchemical literature because, at its core, is an impossible promise. However, that impossible promise, like the promise of all good literature, continues to tantalise unorthodox minds.

The writers and readers discussed in this book lived in diverse English cultures over a long time period, roughly spanning 1380–1652, by no means an uneventful stretch of years. Alongside the great political events and social changes of pre- and post-Reformation England, this era saw the rise of the English language, the advent of the printing press, the dissolution of the monasteries,

---

[37] George Steiner, 'On Difficulty', *The Journal of Aesthetics and Art Criticism* 36 (1978), p. 271.

[38] Wolfgang Iser, 'The Reading Process: A Phenomenological Approach', *New Literary History* 3 (1972), p. 281.

the increased power and influence of London's guilds, wider access to education, all of which affected those mentioned in the following chapters. Knowledge changed too with the likes of Paracelsus, Andreas Libavius, Jan Baptist van Helmont, and William Harvey redefining European understanding of alchemy and medicine. From new materials discovered or imported through imperial channels to advancements in the quality of glassware, the nature of alchemy was always changing. Alchemists, however, often presented their 'secrets' as universal truths simply reiterating the unchanging reality of alchemical knowledge as set down by their predecessors. To the *sapientes*, the different emphases of alchemical authors throughout history were discernible, and they were able to reinterpret older texts to correspond with their practice.[39] However, if the explicit proclamations of alchemical authors were to be believed, a seventeenth-century reader would be able to glean just as much about alchemy from a fifteenth-century alchemical poem as he would from the writings of his contemporaries. Whilst the changes witnessed over the period covered by this book were considerable, the fundamental reading habits, the 'alchemical hermeneutics' that I postulate, remain fairly constant. Even as alchemical material began to appear in print, the circulation, compilation and annotation of alchemical manuscripts continued into the seventeenth century.

Literatures of Alchemy looks at how medieval alchemy was read and understood by both medieval and early modern readers. Its focus is on a manuscript culture that shared, collated and edited alchemical secrets by hand. I do not, in the following chapters, address the vast and intricate reading cultures that developed around the 422 alchemical texts printed in England between 1527 and 1688.[40] Amongst these printed books are the writings of Paracelsus, Robert Boyle, George Starkey, John Heydon, Thomas Vaughan, Jacob Boehme, Arthur Dee, among countless others. Such writers are not discussed below. Instead, I focus on material written in medieval England and analyse the many ways

---

[39] Jennifer Rampling, 'Transmuting Sericon: Alchemy as "Practical Exegesis" in Early Modern England', *Osiris* 29 (2014).

[40] This number is given by the Restoration seller of alchemical books, William Cooper. See Lauren Kassell 'Secrets Revealed: Alchemical Books in Early-Modern England', *History of Science* 49 (2011), p. 61.

in which one specific culture of alchemy transformed over time.[41] This book is divided into two halves; the first half explores the two extremes of how alchemical difficulty was perceived in poetry, academic circles and in wider medieval culture. Geoffrey Chaucer's 'Canon's Yeoman's Tale' epitomises the sceptical rejection of alchemical bombast, whilst John Gower's *Confessio Amantis* sits in a tradition that sees a template for social reform in the transformative power of the alchemical promise. Chaucer saw an impotence in alchemy, an emptiness behind its professed 'pryvetee' that could nonetheless be manipulated by those who knew their way around its language; Gower – along with Roger Bacon and Thomas Norton – inserted their own hopes into the interpretative gaps left by alchemical literature.

Chapters 3 and 4 then turn to the language of alchemy itself, paying particular attention to how this language was read by those at the beginning of their alchemical studies. London, British Library, MS Harley 2407 is the focus of Chapter 3, a fifteenth-century manuscript containing an array of Middle English alchemical verse that reveals the wide and long readership of alchemical literature. Chapter 4 posits a theory of 'alchemical hermeneutics', making use of the traces readers left in their manuscripts to argue that alchemists and their patrons were trained to read alchemy into all that they encountered. To the dismay of those who laboured night and day beside their furnaces and alembics, the history of alchemy is defined just as much by the *fatuos* as it is the *sapientes*. Quacks, charlatans, dupes, and over-interpreters populate the records in as great a number as those who furthered human knowledge. In an essay on Chaucer's 'Canon's Yeoman's Tale', Lee Patterson argued that alchemy offered a 'way to be an intellectual' and a shortcut to

---

41 For the relationships between the print and manuscript cultures of alchemy, see Rampling, *Experimental Fire*, pp. 206–16; Kassell, *Medicine and Magic in Elizabethan London: Simon Forman, Astrologer, Alchemist, and Physician* (Oxford: Clarendon Press, 2005); Kassell, 'Reading for the Philosophers' Stone', in Marina Frasca-Spada and Nick Jardine (eds), *Books and the Sciences in History* (Cambridge: Cambridge University Press, 2000), pp. 301–34; Tara Nummedal and Paula Findlen, 'Words of Nature: Scientific Books in the Seventeenth Century', in Andrew Hunter (ed.), *Thornton and Tully's Scientific Books, Libraries, and Collectors: A Study of Bibliography and the Book Trade in Relation to the History of Science* (Aldershot: Ashgate, 2000), pp. 164–215.

the prestige associated with such a persona.[42] In this book, we will encounter earnest alchemists, fraudulent alchemists, transmutational alchemists, iatrochemical alchemists, eschatological alchemists, and revolutionary alchemists; what each of these alchemists have in common is a belief in their own unique and superior understanding of fundamentally incomprehensible language.

[42] Lee Patterson, 'Perpetual Motion: Alchemy and the Technology of the Self', *Studies in the Ages of Chaucer* 15 (1993), p. 54.

Ignotum per Ignocius:
Literatures of Alchemical Impotence

Ben Jonson's *The Alchemist* epitomises the modern conception of alchemy as an occult and fundamentally fraudulent pseudoscience. The work of historians of alchemy over the past three decades has largely been to dispel myths of alchemy, particularly those suggesting any association with the supernatural, that have developed ever since Subtle, Face, and Doll first duped their gullible aspirants. To understand the alchemy of the late medieval and early modern periods, we have to remember that most alchemists were performing interesting and sometimes useful chemical operations, whether that be in the field of pharmaceuticals, metallurgy, dyeing and ink-making, jewellery; or whether they were simply furthering understanding of the natural world, discovering compounds and inventing apparatus and procedures. However, whilst the association between alchemy and magic does seem to be a seventeenth-century invention, alchemists have never been far from accusations of the sort of fraudulence on show in Jonson's great comedy.

In her 2020 book, *The Experimental Fire: Inventing English Alchemy, 1300–1700*, Jennifer Rampling details the way in which English alchemy in the late Middle Ages 'developed in a fraught context of state concern over bullion shortage, inadequate currency, and rampant counterfeiting'.[1] Although alchemical knowledge was not needed to counterfeit coin, alchemists – some of whom were, of course, partial to fraudulence – were often lumped together with counterfeiters and coin-clippers throughout the fourteenth century. Rampling describes the strange relationship between successive kings and those who professed to be able to perform alchemy. Edward III patronised alchemists in hope of securing funds for

---

[1] Rampling, *Experimental Fire*, p. 29.

his costly wars with France; he also no doubt employed alchemists, skilled in the art of alloying, to assist in the minting of his 1343 gold coin.[2] However, when William de Brumley was caught in possession of counterfeit gold in 1347, he was arrested and tried.[3] In 1403/4, Henry IV outlawed the 'multiplication' of metal, that is the production of metals that looked like gold or silver, and yet successive kings granted licences allowing specific alchemists to practise.[4] Throughout the fourteenth century, a pattern emerges: kings cracked down on alchemists seen to be committing fraud whilst simultaneously holding out hope that good alchemists could fill the royal coffers. In Ben Jonson's *The Alchemist*, alchemy is a purely linguistic affair; there is no physical transformation of materials. Alchemy, to Jonson, is nothing but empty promises and showmanship. However, it would be a mistake to think that all those who patronised or practised alchemy were either foolish or deceitful. Beyond grand claims to the philosophers' stone, immortality, and untold worldly power, alchemy was rather practical.

Sinners, Tricksters and Fools: Conceptions of Alchemists in the Fourteenth Century

Subtle's grandiloquent monologues, laden with incomprehensible jargon and performed to pull the wool over the eyes of unsuspecting dupes, have a long literary tradition. Beyond Jean de Meun's encyclopaedic extension of *Le Roman de la Rose* (the first vernacular text to engage with alchemy at length), European literature has not been

---

[2] Ibid., pp. 25–7; H. C. Maxwell Lyte (ed.), *Calendar of the Patent Rolls Preserved in the Public Record Office: Edward III A.D. 1327-1330* (London: Eyre and Spottiswoode, 1891), vol. 1, p. 386; London, The National Archives, Patent Roll, 11 Edward III, Part 1. m. 20 d. Cited in Singer, *Catalogue*, vol. 3, pp. 778–9.

[3] London, The National Archives, Coram Rege Roll 448, 47 Edward III, Hilary Term. Rex m. 14. d. Cited in Singer, *Catalogue*, p. 781.

[4] Rampling, *Experimental Fire*, pp. 64–73; Wendy J. Turner, 'The Legal Regulation and Licensing of Alchemy in Late Medieval England', in *Law and Magic: A Collection of Essays*, ed. Christine A. Corcos (Durham, NC: Carolina Academic Press, 2010), pp. 209–25; D. Geoghegen, 'A License of Henry VI to Practise Alchemy', *Ambix* 6 (1957), pp. 13–16.

kind to alchemists.[5] Theodore Ziolkowski, who has charted the representation of alchemists in literature from Dante to the twenty-first century, characterises the medieval and early modern periods as being ones of 'satirization'.[6] After Jean de Meun had declared that alchemy was an 'art veritable', it fell to Italian writers to begin their attacks on alchemical fraudulence.[7] In Canto 29 of *Inferno*, Dante and Virgil meet two alchemists in the final *bolgia* of the eighth circle of hell, a *bolgia* devoted to falsifiers. These alchemists, Griffolino da Arezzo and Capocchio, both based on historical figures, are condemned to scratch perpetual itches, 'pizzicor, che non ha più soccorso'.[8] Even in oblivion, Capocchio boasts of his skill in falsifying metals:

> sì vedrai ch'io son l'ombra di Capocchio,
> che falsai li metalli com l'alchìmia;
> e te dee ricordar, se ben t'adocchio,
> com'io fui du natura buona scimia.[9]

> So shalt thou see I am the shadow of Capocchio, who falsified the metals by alchemy. And thou must recollect, if I rightly eye thee, how good an ape I was of Nature.[10]

In this way, Dante has Capocchio pay homage to the central debate surrounding alchemy in the twelfth and thirteenth centuries, a debate with which Jean de Meun directly engaged in *Le Roman de la Rose*: the extent to which art can mimic nature. Although Jean had suggested that art could only counterfeit nature, 'conme singes' (like an ape), his digression on the art of alchemy argues that, of all the

---

5   Guillaume de Lorris and Jean de Meun, *Le Roman de la Rose*, ed. Félix Lecoy, 3 vols, Classiques français du Moyen Âge, 92, 95, 98 (Paris, 1965–70), lines 16035–118.
6   Theodore Ziolkowski, 'Satirizations, or Nigredo', in *The Alchemist in Literature: From Dante to the Present* (Oxford: Oxford University Press, 2015), pp. 16–61.
7   Jean de Meun, *Le Roman de la Rose*, line 16054.
8   Dante Alighieri, *Commedia*, ed. Anna Maria Chiavacci Leonardi (Milan: Zanichelli, 1999–2000), vol. 1 – *Inferno*, Canto 29, line 81.
9   Dante, *Inferno*, Canto 29, lines 136–9.
10   John Carlyle, *Dante's Divine Comedy: The Inferno – A Literal Prose Translation*, ed. and trans. John Carlyle (London: George Bell and Sons, 1882), p. 357.

arts, alchemy is the one that is closest to nature's functions.[11] Here, Dante suggests that Capocchio's mimicry of nature was indeed apish and worthy of infernal punishment.

Petrarch's denigration of alchemy in *De remediis utriusque fortunae* (1366) is more extensive than Dante's, focusing on that which lures prospective alchemists into the perpetual hope that inevitably leads to their demise. The *De remediis* is a collection of allegorised moral conversations in Latin between Ratio (Reason) and various human faculties and emotions such as Gaudium (Joy), Spes (Hope), Dolor (Sorrow) and Metus (Fear). Towards the end of the first book, devoted to Reason's conversations with Joy and Hope, Reason questions Hope's belief in alchemy, asking him what the art offers 'praeter fumum, cinera, sudorem, suspira, verba, dolos, ignominiam' (beyond fumes, ashes, sweat, sighs, words, tricks, and ignominy).[12] Alchemy, according to Petrarch's Reason, produces nothing but waste and ostracisation from society:

> Alios ciuilitate deposita moestos semper atque anxios, dum nec cogitare aliud quam folles & forcipes & carbones, nec aliis quam suae haeresis conuiuere didicerunt in syluestres pene homines euasisse, nonnullos denique amissis primum animi luminibus, in hoc exercitio corporeos insuper oculos amisisse?[13]

> [Have you not seen] other [alchemists], thrown out from civilisation, always gloomy and anxious, thinking of nothing but bellows, forceps, and coals, living with no one but those of their own sect almost in wilderness, they have learned how to evade mankind. Finally, [have you not seen] others who, having first lost the light of their minds, have lost in this enterprise the eyes of their bodies?

Despite Reason's arguments, imploring Hope to trust the disappointing truth of what it is in front of him rather than the glorious castles that alchemical promises have built in his mind, Hope continues to believe that he will be made rich through alchemy. Unlike Dante, who is interested in the immorality of those who cynically manipulate metal to deceive others, Petrarch is interested in the

---

[11] Jean de Meun, *Le Roman de la Rose*, lines 16001–71.

[12] Francesco Petrarch, *I Rimedi per l'una e l'altra sorte*, ed. and trans. Ugo Dotti (Torino: Nino Aragno, 2013), vol. 2, p. 820.

[13] Ibid., pp. 820–2.

deceived. He demonstrates how Reason is weaker than Hope when it comes to alchemy: no matter how untrustworthy the teller, the tale of alchemy is powerful enough to draw people in. Eventually, Reason gives up, leaving Hope to learn the hard way, foreseeing that all the latter will acquire thereby is a house full of useless junk:

> Erunt sufflatores, deceptores, derisores, omnis angulis habebit pelues, & lebetes, & phialas olentium aquarum, herbas prae-terea peregrinas, & externos sales, & sulphur, & distillatoria & caminos.[14]

> There will be puffers, deceivers, mockers, every corner will have vessels and basins, phials of stinking water, moreover exotic herbs and external salts and sulphur and stills and furnaces.

Reason foresees that Hope will, like Dante's falsifiers, always be itching for something: 'semper rebus aliquid defuerit, dolis nihil' (something will always be lacking, but never pain).[15] She sees the impotence of alchemy and gives short shrift to alchemical authority. All the while, Hope maintains hope.

  Slightly before Petrarch's *De remediis*, on the Iberian Peninsula, a different breed of alchemical satire emerged, that of the alchem-ical trickster-protagonist. *Fèlix o Llibre de Meravelles* (c. 1289) by Ramon Lull, the anonymous *Libro del Cavallero Zifar* (c. 1300), and *El Conde Lucanor* (1335) by Juan Manuel, all feature quick-thinking characters who deceive kings by adulterating gold filings.[16] In each

---

[14] Petrarch, *I Rimedi*, pp. 822–4.

[15] Ibid.

[16] The Iberian origin of these tales is likely due to the fact that most of the translation of alchemical texts from Arabic into Latin occurred on the Iberian Peninsula throughout the twelfth century. Carolyn Collette and Vincent DiMarco, 'The Canon's Yeoman's Tale', in *Sources and Ana-logues of The Canterbury Tales*, ed. Robert M. Correale with Mary Hamel (Cambridge: D. S. Brewer, 2005), vol. 2, pp. 731–4; Ramon Lull, *Fèlix o Llibre de Meravelles*, in *Selected Works of Ramon Llull (1232–1316)*, ed. and trans. Anthony Bonner (Princeton, NJ: Princeton University Press, 1985), pp. 776–9; Charles L. Nelson (ed.), *The Book of the Knight Zifar: A Translation of 'El Libro del Cavallero Zifar'* (Lexington, KY: University of Kentucky Press, 1983), pp. 268–72; Juan Manuel, *El Conde Lucanor: A Collection of Medieval Spanish Stories*, ed. and trans. John England (Warminster: Aris & Phillips, 1987).

tale, the trickster files down gold into a powder of some sort, some-
times mixing the gold powder with other herbs or substances. The
trickster then convinces a powerful monarch that he has successfully
multiplied the weight of the gold. The deceit of *El Conde Lucanor*
differs slightly in that, rather than pretending to multiply the weight
of gold, the trickster arrives with his gold powder, which he then
liquifies to convince the king that he has produced gold. These tales,
perhaps Arabic of origin, are likely to have been based on the his-
torical practices of alchemists trying to secure patronage. Jean de
Rupescissa, the fourteenth-century prophet and alchemist whose
alcoholic quintessence revolutionised European alchemy,[17] earnestly
taught his readers how to perform a similar trick just in case they
needed to hide their gold from the Antichrist:

> Et si vis calces occultare omnino, misce eas cum pice liquida, vel
> cera, vel gummi, vel cum omni re combustibili, et non cognoscetur
> ab homine huius mundi: sed erunt homines videntes naturaliter,
> vt incantati. Et si vis hanc incantationem omnino soluere, pone
> calcem auri in cineritio, et verum aurum vt prius inuenies. Idem
> fac de argento.[18]

> And if you want to hide the powders from everyone, mix them
> with liquid pitch, or wax, or gum, or anything combustible, and
> it will not be recognised by anyone on earth; but men will natu-
> rally see it as if under a spell. And if you want to undo this spell
> entirely, put the golden powder in an incinerator, and you will
> find true gold as before. Do the same for silver.

Even this most renowned alchemist, who genuinely furthered
European knowledge of chemical substances, wrote about how to
deceive those who do not understand the ins and outs of alchemy.
This blurry line between the earnest and the fraudulent alchemist
was explored in detail by Geoffrey Chaucer in the 'Canon's Yeoman's

[17] Leah DeVun, *Prophecy, Alchemy, and the End of Time: John of Rupescissa in the Late Middle Ages* (New York: Columbia University Press, 2009).

[18] Jean de Rupescissa, *Liber de consideratione quintae essentiae* (Basel, 1597), p. 56; for a Middle English translation, see John de Rupsecissa, '*The Consideration of the Quintessence*: An Edition of a Middle English Translation of John of Rupescissa's *Liber de Consideratione de quintae essentiae omnium rerum* with Introduction, Notes, and Commentary', ed. Marguerite A. Halversen (PhD dissertation, Michigan State University, 1998).

Tale'. Beyond an alchemical digression in Gower's *Confessio Amantis* and a brief dismissal of the worldliness of alchemical knowledge in *Piers Plowman*, there was little English material for Chaucer to work from when he wrote the 'Canon's Yeoman's Tale' towards the end of his career.[19] However, in Petrarch's *Remediis*, there was the germ of Chaucer's vision to portray both the allure and the impotence of alchemy. And yet, Chaucer went a step further than his Italian predecessor; by incorporating the language of alchemical treatises into his satire, he allowed two opposing discourses to vie for supremacy within a singular text. On the one hand, the discourse of public opinion and anti-alchemical satire laid bare the impotence of alchemy; on the other, the discourse of alchemical literature suggested that there were hidden secrets beyond the limited intellect of the 'lewed' Yeoman ('The Canon's Yeoman's Prologue' and 'Tale', fragment VIII, line 787). The Yeoman, having initially shared the optimism of Petrarch's Hope, begins to see into the light of Reason.

Before the English Reformation, alchemy was by-and-large a religious pursuit. Monasteries could provide the manuscripts needed to learn alchemical lore, the space to set up laboratories, and, importantly, the money to perform chymical operations.[20] However, as Rampling has demonstrated, there was a 'mixed economy' of alchemical networks in the fourteenth century.[21] Monks, priests, and canons would collaborate with secular practitioners under the auspices of both religious and lay patrons. It would not necessarily have been surprising to see a canon regular hawking his alchemical prowess on the road to Canterbury with his yeoman, a layman, in tow. Alongside the many pre-Reformation religious alchemists,

---

[19] William Langland, *The Vision of Piers Plowman: A Critical Edition of the B-text Based on Trinity College Cambridge, MS B.15.17*, ed. A. V. C Schmidt, 2nd edn (London: Dent, 1978; repr. 2001), p. 151; John Gower, *Confessio Amantis*, in *The Complete Works of John Gower: The English Works*, ed. G. C. Macaulay (Oxford: Clarendon Press, 1901), book 4, lines 2457–617. All further references will be to this edition.

[20] The term 'chymistry', coined by Lawrence Principe, is used to refer to the practical operations of alchemists before advent of 'chemistry'. See Lawrence Principe (ed.), *Chymists and Chymistry: Studies in the History of Alchemy and Early Modern Chemistry* (Sagamore Beach, MA: Science History Publications, 2007).

[21] Rampling, *Experimental Fire*, p. 62.

Rampling describes the alchemical activities of William Morton, a wool merchant from Newcastle upon Tyne, who, in 1415, established a laboratory at the priory of Hatfield. Morton, collaborating with priors, monks, and laymen, set up an alchemical business, advertising wares to locals and distinguished patrons.[22] Rampling also tells the story of Thomas Ellys (fl. 1493–1557), prior of Little Leighs, who, having read alchemical treatises in the priory library, sought an alchemical master to put his reading into practice. On the advice of a London goldsmith, Ellys met a priest, who in turn introduced the prior to his alchemical master, a mercer called Thomas Peter. After receiving the alchemical secret, some alchemical material, and apparatus for the hefty fee of £20, Ellys set up his laboratory at Little Leighs, employing the help of a canon to blow the fires. We have such detail about Ellys' alchemical network because the operation did not end well and Ellys, having given up on his alchemical project, refused to pay Peter the full £20. Peter sued Ellys, calling on a number of acquaintances for support. Such a detailed picture of these messy alchemical dealings is drawn from the testimonies of Edmund Freake, Ellys' laboratory assistant, and of Ellys himself.[23] Compared to the lofty ambitions and grand pronouncements of alchemical treatises, the real world of alchemy, as documented in legal records, is materialistic and shady.

An argument that has grown around the enigmatic 'Canon's Yeoman's Tale' is the question of whether Chaucer was writing from personal experience. Leaving aside – for now – the unfounded notion that Chaucer himself dabbled in alchemy, there have been recurring forays into the prospect of Chaucer having been alchemically swindled by a canon of Windsor called William Shuchirch.[24] This theory is based on a marginal figure in a lawsuit surrounding the arrest of a chaplain called William de Brumley in 1372, who had

[22] Ibid., pp. 61–2.

[23] Ibid., pp. 158–67.

[24] See H. G. Richardson, 'Year Books and Plea Rolls as Sources of Historical Information', *Transactions of the Royal Historical Society* 5 (1922), pp. 37–40; John Matthews Manly, *Some New Light on Chaucer: Lectures Delivered at the Lowell Institute* (Boston, MA: Holt, 1926), pp. 245–52; Robert Dudley French, *A Chaucer Handbook* (New York: F. S. Crofts, 1947), p. 328. For a dismissal of these claims, see Duncan, 'The Literature of Alchemy', pp. 633–4.

sold counterfeit coins to the Royal Mint, which he had created 'cum arte Alconomie de auro et argento et aliis medicinis, videlicet sal armoniak, vitriol, et solermonik' (through the art of alchemy from gold, silver and other medicines, such as *sal armoniak*, *vitriol*, and *solermonik*).[25] De Brumley claimed that he had learned his alchemy from a William Shitchurch, canon of the king's chapel at Windsor. Euan Roger has recently argued convincingly that this Shitchurch (not Shuchuch, as Richardson had transcribed) was in fact a comically renamed Hugh Whitchurch, canon of a Saint George's Chapel that housed some rather unsavoury and wayward inhabitants.[26] In 1390, Chaucer was appointed as Clerk of the King's Works at Saint George's Chapel, largely due to its ruinous state. This is where, as Roger demonstrates, the connections between Chaucer and the alchemical Whitchurch/Shitchurch end. The speculation of Richardson, Manly, and all those who have followed in their wake suggested that Chaucer was swindled by this canon during his time at Windsor; Roger has demonstrated that the alchemical canon had been dead for fourteen years by the time Chaucer took up his position. However, Roger does present some tantalising evidence to suggest that Chaucer was 'in direct proximity of the trial [of William de Brumley] and its protagonists' as well as being in professional contact with expert witnesses in the trial, those charged with assaying de Brumley's coins.[27] Whatever the link between Chaucer and this case of alchemical fraudulence, the trial of William de Brumley is a rare glimpse into the lived experience of alchemy in fourteenth-century England. What we see is a shady canon peddling alchemical recipes, a priest attempting to benefit financially from his alchemically created coins, a Royal Mint attuned to alchemical deceit, and three jurors (a Master of the Mint, an alderman of the London Exchange, and a goldsmith) who were trusted with the assaying of alchemical gold.

[25] London, The National Archives, Coram Rege Roll 448, 47 Edward III, Hilary Term. Rex m. 14. d. Cited in Singer, *Catalogue*, p. 781.

[26] Euan Roger, 'Pars Secunda: A New Identification', *Chaucer Review* 54 (2019), pp. 464–81.

[27] Ibid., pp. 474–9.

Playing with Obscurity: Chaucer's Manipulation of the *Tabula chemica* and the *Liber de secretis naturae*

The case of William de Brumley helps us to see the discrepancy between the way in which alchemists were seen and how alchemists presented themselves in literature. There is no way of knowing whether or not William de Brumley, or even the mysterious William Shitchurch (Hugh Whitchurch), believed their alchemical gold to be genuine. However, the fact that the gold confiscated was in the form of coins rather than bullion suggests that there was a level of knowing deceit, as the false metal had been struck into coins, intended for use. Nowhere in surviving alchemical documents is there even the hint of a suggestion that the alchemist's craft had anything to do with such fraudulence or deception.[28] Indeed, amongst Chaucer's alchemical sources are two Latin treatises that are extremely earnest about the grandeur of the alchemical art. Both the *Liber de secretis naturae*, a short alchemical treatise written in the early fourteenth century and attributed to the Catalan physician, Arnold of Villanova (c. 1240–1311), and the *Tabula chemica*, a translation of two Arabic texts written by the tenth-century alchemist Muhammed ibn Umail al-Tamīmī, hide alchemical recipes behind obscure language, reiterating the power of their hidden knowledge. In these treatises, alchemy could not be further from the petty fraudulence of parochial English priests. I now turn to these documents to explore the other, more academic, side of alchemy that Chaucer moulded into the Canon and his Yeoman.

The *Tabula chemica*, attributed in Latin to Senior Zadith filius Hamuel, is in fact a thirteenth-century translation of Ibn Umail's poem, the *Risālat al-Shams ilā al-Hilāl* (*Letter of the Sun to the Crescent Moon*) and its accompanying commentary, the *Kitāb al-Ma'al-Waraqī Wa-'l'Ard al-Najmiyyah* (*The Book of the Silvery Water and Starry Earth*). The *Risālat* begins as an erotic correspondence between the sun and the moon, but this alchemical metaphor is quickly abandoned as others take its place. It is a poem that is full of fantastical images and relishes its own linguistic difficulty:

---

[28] Even Jean de Rupescissa's recipe for hiding gold in powdered form is justified through reference to the Antichrist.

Quicquid autem pervenit ad te ex parabolis, similitudinibus, nominibus, gemmis, floribus, sulphare, arsenico & argento vivo, de Cambar, & omnem nigrum, rubeum & album. Et omnia humida ex acetis, lactibus, sanguinibus, urinis, spermate, fellibus & his similibus. Haec omnia significant hanc aquam divinam.[29]

Whatever comes to you, however, from parables, likenesses, names, gems, flowers, from sulphur, arsenic, quicksilver, of cinnabar, and all things, black, red, and white, and all waters from vinegar, milk, blood, urine, sperm, gall, and suchlike, all these things signify this divine water.

Ibn Umail was neither the first nor the last alchemist to stress the fact that a particularly important alchemical substance went by so many names, but I venture that the implications of this ludicrous claim bled into the arbitrary list of alchemical ingredients in the 'Canon's Yeoman's Tale'.[30] As the Yeoman racks his brains to remember 'ful many another thyng / That is unto our craft apertenyng / Though I by ordre hem nat reherce kan', he lists 'boole armonyak, verdegrees, boras' alongside 'watres rubifying, and boles galle, / Arsenyk, sal armonyak, and brymstoon' (VIII, lines 784–98); indeed, the Yeoman goes on arbitrarily listing alchemical ingredients and apparatus for a good forty-four lines. Charles Muscatine first noted how the Yeoman's unordered list of alchemical language highlights the material focus of the 'Canon's Yeoman's Tale'; it is a proliferation of useless stuff divorced from anything meaningful or spiritual.[31] I agree with Muscatine but would add there is an alchemical heritage to such a linguistic confounding when it comes to naming

---

[29] Muhammed ibn Umail, *Tabula Chemica, in Three Arabic Treatises on Alchemy by Muhammad bin Umail (10th Century A.D.)*, ed. M. Turāb ʿAlī, H. E. Stapleton and M. Hidāyat Husain (Calcutta: Asiatic Society of Bengal, 1933), pp. 153–4. All further references will be to this edition.

[30] For Chaucer's alchemical debt to the encyclopaedic works of writers like Bartholomeus Anglicus and Vincent de Beauvais, see Pauline Aiken, 'Vincent de Beauvais and Chaucer's Knowledge of Alchemy', *Studies in Philology* 41 (1944), pp. 371–89; Sébastien Moureau, 'Les sources alchimique de Vincent de Beauvais', *Spicae, Cahiers de l'Atelier Vincent de Beauvais* 2 (2012), pp. 5–118.

[31] Charles Muscatine, *Chaucer and the French Tradition* (Berkeley, CA: University of California Press, 1957), p. 220.

ingredients. It is telling that, at the end of the 'Canon's Yeoman's Tale', when Chaucer claims to be quoting from the 'book Senior', that Plato's fundamental alchemical substance described as 'a water that is maad […] / Of elementes foure', the 'roote' of which is hidden by Christ (VIII, lines 1459–68). I posit that this is the 'aquam divinam' of the *Tabula chemica*, not communicated in a way that would be helpful to a practising alchemist, but rather in the playful confounding of language that is an explicit and recurring theme in the alchemical text.

It is the end of the 'Canon's Yeoman's Tale' that has attracted most critical attention. Surprisingly, considering the relentless satire of the tale, the final forty-four lines of the 'Canon's Yeoman's Tale' have often been and continue to be read as Chaucer's tacit endorsement of a "true" alchemy that the Yeoman simply does not understand.[32] Of course, we will never know what Chaucer really thought about alchemy in the same way that we will never know what he really thought about the Church, about the Crown, or about women. All we can do is comment on the way he manipulates his source material and, in the case of *The Canterbury Tales*, how he presents this material through the teller of a tale. The argument for Chaucer's sympathy towards alchemy stems from the reasonable premise that the Yeoman is not a stand-in for Chaucer. Just because the Yeoman, 'a lewed man' (VIII, line 787), rejects alchemy, that does not mean that Chaucer does too. Proponents of this reading argue that Chaucer was lambasting fool's alchemy whilst pointing towards the alchemy of wise men. On the one hand, the 'Canon's Yeoman's Tale' is a satire

---

[32] For twentieth- and twenty-first-century criticism that has either seen Chaucer as alchemically sympathetic or as an alchemist, see Alexander Gabrovsky, *Chaucer the Alchemist: Physics, Mutability and the Medieval Imagination* (New York: Palgrave Macmillan, 2015); Peter Starr, 'Towards a Context for Ibn Umayl Known to Chaucer as the Alchemist "Senior"', *Çankaya Üniversitesi Fen-Edebiyat Fakültesi, Journal of Arts and Sciences* (2009), p. 76; Britton J. Harwood, 'Chaucer and the Silence of History: Situating the "Canon's Yeoman's Tale"', *PMLA* 102 (1987), p. 338; Samuel Foster Damon, 'Chaucer and Alchemy', *PMLA* 39 (1924), p. 782. For a survey of the different ways in which the final lines of the 'Canon's Yeoman's Tale' have been read, see George R. Keiser, 'The Conclusion of the "Canon's Yeoman's Tale": Readings and (Mis)Readings', *The Chaucer Review* 35 (2000), pp. 1–21.

about the impotence of alchemy and the manipulative power of those who claim to understand it; on the other, the tale satirises those who do not understand properly, subliminally communicating alchemical truths to those who do. Though I do not claim to know Chaucer's opinion on alchemy, I hope to demonstrate that the way in which Chaucer adapts his alchemical sources suggests that his interest in the art was linguistic rather than practical. Chaucer was not interested in alchemy *per se*, but rather in hidden knowledge, or the pretence of hidden knowledge, and how this knowledge could be used to manipulate others.

The passage of the *Tabula* from which the Yeoman quotes at the end of the 'Canon's Yeoman's Tale' occurs during a confusing discussion between legendary alchemical authorities. At this point in the text, King Solomon is the leading authority, explaining the many names of the philosophers' stone to an unnamed sage:

> Dixit Salomon rex. Recipe lapidem qui dicitur Thitarios, & est lapis rubeus, albus, citrinus, niger, habens multa nomina & diversos colores. Dixit etiam naturam unam & spiritualem sepultam in arena, & assignavit lapidem coloribus propriis, qui apparent in praeperatione. Dixit Sapiens assigna mihi illum. Dixit, & est corpus magnesiae nobile, quod commendarunt omnes Philosophi. Dixit, quid est magnesia? Respondit magnesia est aqua composita, congelata, quae repugnat igni. Hoc mare latum, magnum bonum, cujus bonitatem commendavit Hermes. Fecit enim magnesiam hic spiritum & animam, & corpus cinerem, qui est intus cinere. Et dixit Plato, unumquodque est unum, quia omnis homo est animatus, sed non omne animatus est homo. (p. 180)

> King Solomon said, 'Take the stone that is called Thitarios, and it is a red, white, yellow, and black stone, having many names and different colours.' He also said that the one and spiritual nature is buried in the sand, and he gave the stone over to its particular colours, which appear in the preparation. The wise man said, 'Describe it to me.' He said, 'Its body is [made] of noble magnesia, which all the philosophers hold dear.' He said, 'What is magnesia?' He responded, 'Magnesia is a unified, solidified water that repels fire. This wide sea [is] a great good, the goodness of which Hermes commended. For this [Hermes] made magnesia, the spirit and the soul and the body of ash, which is inside the

ash.' And Plato said, 'All is one, because every man has a soul, but not everything with a soul is a man.'

It is no surprise that Chaucer chose this passage to highlight the impossible opacity of alchemical language: there is a laxity regarding the subject of words like 'dixit' and 'respondit'; important words like 'Thitarios' and 'magnesia' are left purposefully undefined; the passage is characterised by non-sequiturs, particularly when it comes to Plato's surprising gnomic interjection; and it is overpopulated with alchemical authorities, although their inclusion does nothing to communicate the information more clearly. The difficulty of this passage is reflected in its textual history. In some manuscripts, the word 'Thitarios' is replaced or glossed with the word 'Titanos', which is the word that Chaucer eventually has Plato using as he describes 'the stoon that Titanos men name' (VIII, line 1454).[33] Chaucer was not the first to confuse the names of the speakers either; in BL, MS Sloane 2327, for example, a scribe has seen the word 'Hermes' (as quoted by Solomon) and given that name to the 'Sapiens', naming the interlocutor and thereby rendering the passage a conversation between Solomon and Hermes, which is much clearer and much more satisfying. Whether Chaucer switched the speaker from Solomon to Plato because of a quirk in the manuscript he was reading, or because he did not believe that the biblical Solomon was an alchemist, or because of a general confounding of speakers, we can be confident in the assertion that this was a confusing passage, even to alchemists.

Chaucer takes this passage and focuses on the questioning rather than the answers; he is more interested in the exasperation of Plato's disciple than the impotent phrases of Plato himself:

Also ther was a disciple of Plato,
That on a tyme seyde his maister to,
As his book Senior wol bere witnesse,
And this was his demande in soothfastnesse:
'Telle me the name of the privee stoon.'

[33] BL, MS Harley 3528 reads 'tytamos' or 'tytanios', folio 153r. John Dee, the glossator of BL, MS Sloane 2327, has glossed 'thitarios' with 'Titanos'. The Arabic reads 'ṭīṭiyānūs' or 'ṭīṭānūs', see *Three Arabic Treatises*, p. 180, n. 7. Julius Ruska suggests that the original Greek word was probably 'Titanos', meaning limestone. Julius Ruska, 'Chaucer und das Buch Senior', *Anglia* 61 (1937), p. 137.

And Plato answerde unto hym anoon,
'Take the stoon that Titanos men name.'
'Which is that?' quod he. 'Magnasia is the same,'
Seyde Plato. 'Ye, sire, and is it thus?
This is *ignotum per ignocius*.
What is Magnasia, good sire, I yow preye?'
'It is a water that is maad, I seye,
Of elementes foure,' quod Plato.
'Telle me the roote, good sire,' quod he tho,
'Of that water, if it be youre wil.'
'Nay, nay', quod Plato, 'certein, that I nyl.' (VIII, lines 1448–63)

As we will also see in his adaptation of the *Liber de secretis natu-rae*, Chaucer's main contribution to his alchemical source material concerns the communication of information. It is all well and good defining 'Titanos' as 'Magnasia', but if you do not know what 'Magnasia' means, then you are none the wiser. This is exactly what Plato's disciple suggests when he declares 'this is *ignotum per igno-cius*'; he says that Plato's pedagogy explains the unknown through more unknown things. The section concludes with Plato refusing to tell his disciple the 'roote' of this elemental water, claiming that the secret is so 'lief and deere' to Christ that He 'wol nat that it discov-ered bee, / But where it liketh his deitee / Men for t'enspire' (VIII, lines 1467–70). Overlooking the Christianising of Plato, an anachro-nism common to alchemical and medieval literature in general, there is a providential sentiment to this popular alchemical idea that you need to be chosen by God to understand alchemy. Plato refuses to reveal to his disciple a piece of information that has presumably been revealed to him through the divine inspiration of which he speaks. He presents an interpretative test: if Christ wants you to understand, then you will; if he does not, then you will not. This is fertile ground for Chaucer, not in any sense of reaching towards alchemical secrets, but rather as a unique intellectual framework that provides him with another angle from which to approach his fascination with 'pryvetee' (I, line 3164) and, in particular, the 'pryvetee' of God.

The *Liber de secretis naturae* by pseudo-Arnold of Villanova is a short text that, like the interchange between Plato and his disciple in the 'Canon's Yeoman's Tale', takes the form of an alchemical dia-logue. Towards the beginning of the treatise, however, the author makes a rather bold claim regarding the intellect of his readership:

'Enim dicam ut fatuos derideam, sapientes doceam' (For I speak so that I might mock fools and teach the wise; p. 490). It is this principle, that there are some readers who will understand the text and others who will not, that lies behind the theory that Chaucer was sympathetic towards alchemy. Those who see Chaucer satirising alchemy are thus seen, like the Yeoman himself, to be alchemical fools; however, those who can read through and beyond the tale's surface reveal themselves to be among the wise. Of course, sceptical readers see those roles reversed: those who see the impotent bombast of alchemy are wiser than those who are fooled by its promises and rhetoric. We can see the logic of the conspiracy theorist in this sentiment: behind the surface of things, there is a deeper and more powerful truth that is known only to a few elite individuals. There is a system of symbols that can be deciphered by the enlightened mind but goes undetected by the ignorant masses. The *Liber de secretis naturae* asks its readers to read beyond the literal and towards a hidden truth. To accentuate the idea of wise men reading beyond the surface of things, the majority of the *De secretis* features a wise man trying to teach one who is not so wise – but not quite a fool – how to understand alchemical language. This student interlocutor continually asks his teacher to clarify the misty secrets to him. After a particularly long metaphorical section in which pseudo-Arnold as the alchemical master likens the philosophers' stone to the Trinity, the student asks – not for the first time – 'Que verba sunt hec? Non intelligo' (What words are these? I do not understand; p. 516). Pseudo-Arnold, through the character of the student interlocutor, acknowledges the obscurity of his speech.

Relenting to his student's constant requests for clarity, pseudo-Arnold eventually promises to speak plainly:

> Sed amore tui dicam tibi clarus: Purga lapidem, tere et portuum frange claviculam, et habebis rem bonam. Intellige dicta philosophorum et habebis magisterium. Scias ergo pro certo quod filius crucifixus infra parvum tempus resurget de morte ad vitam, et tunc habebit animam, fortius ergo incendium erit dandum. (p. 516)

> But because I like you, I will tell you clearly: purge the stone, grind and break the little key to the ports, and you will have a good thing. Understand the sayings of the philosophers and you will have the *magisterium*. Thus may you know for certain that

the crucified son will soon rise again from death to life, and then
he will have a soul, and thus a stronger fire will need to be given.

Unless one already knows to what the 'stone' and the 'little key to the
ports' refer, there is nothing clear about this passage at all. Pseudo-
Arnold speaks vaguely about a 'good thing', 'the sayings of the
philosophers' and the '*magisterium*' before returning to a previous
metaphor of the stone being like the crucified Christ. Such vague-
ness invites readers to impart their own understanding of alchemy
into its interpretative gaps. By deferring to the 'sayings of the
philosophers', he gestures towards some external truth that is a req-
uisite for understanding. He asks his reader, alongside the confused
student, to make connections between the death of Christ on the
crucifix and the transformations of the alchemical substance in the
crucible. Joking about speaking clearly when he is rather at his most
impenetrable, pseudo-Arnold is aware of his own obscurity. As the
text reaches its climax, the master teaches the student how to multi-
ply the stone: 'Pone unam unciam de elixero rubeo super 1,000,000
femine pregnantis de puella et fiet rex sex nationum' (Put one ounce
of the red elixir on one million women who are pregnant with girls
and it will become the king of the six nations; p. 520). What a million
women expecting girls have to do with the king of the six nations
is anyone's guess. In general, one can conclude that this passage has
something to do with adding the 'red elixir' to a certain amount of
a metal, resulting in a transformation of some description. Perhaps
that is all there is to know, but the enticing imagery draws a reader
into finding out what *exactly* these tantalising phrases mean. In the
De secretis, pseudo-Arnold of Villanova seems just as interested in
the hermeneutics of alchemy as he is the communication of alchem-
ical secrets. The character of the student acts as an avatar for those
who want to but cannot quite understand the purposeful obscurity.
Pseudo-Arnold, working in a long alchemical tradition, includes this
character to coax the reader from a position of perceived alchemical
foolishness to a position of perceived alchemical wisdom. In the
'Canon's Yeoman's Tale', the opposite occurs: the Yeoman is liberated
from the blindness of alchemy into the clarity of common sense.

    It is from a surprisingly straightforward section of the *De secre-
tis* that Chaucer quotes in the 'Canon's Yeoman's Tale'. It occurs
just after the master has berated those 'fatui' who read alchemical
language too literally. Just because he says that 'lapis igitur est

herbalis' (therefore the stone is vegetal; p. 508), it does not mean that the stone is made from plant matter, he explains. What really frustrates the master is when such fools, their work with plant matter having inevitably come to naught, shout 'non est veritus in scientia!' (There is no truth in [this] science; p. 510) – they slander the art just because they do not understand it properly. The vegetal nature of the stone must be taken metaphorically, he argues: 'Quia sicut herba habet animam, ita et lapis noster habet animum' (Because just as a herb has a soul, so too does our stone have a soul; ibid.). Seemingly pleased with this answer, the student goes on to ask a few more questions of clarification:

> Discipulus dixit: Quare dixerunt philosophi quod mercurius non moritur nisi cum fratre suo interficiatur? Magister ait: Primus eorum qui dixit fuit Hermes qui dixit quod 'draco nunquam moritur nisi cum fratre suo interficiatur', vult dicere mercurius nunquam moritur, id est congelatur, nisi cum fratre suo, id est sole vel luna. (pp. 510–12)

> The pupil said: 'Why do the philosophers say that mercury does not die unless it is killed with its brother?' The teacher said: 'The first one to say that was Hermes [Trismegistus], who said that "the dragon never dies unless he is killed with his brother", that is to say that mercury never dies, i.e. congeals, except with his brother, i.e. the sun or the moon.'

After initially complicating the student's question with reference to Hermes and the dragon, pseudo-Arnold is uncharacteristically clear about the fact that dying symbolises solidification, that the dragon symbolises mercury, and that the brother symbolises the sun or the moon (gold or silver). The master seems to be saying that mercury (*quicksilver*, living silver), a liquid at room temperature, can only solidify if it is amalgamated with gold or silver. Whilst it is likely that pseudo-Arnold is talking about an alchemical mercury, distinct from common mercury, this section is remarkably easy to understand. Chaucer, however, rids the passage of its key explanatory detail and keeps only the obscure.

   The Yeoman's reference to 'Arnold of the Newe Toun' comes just before he quotes from the 'book Senior'. Both of these passages, right at the end of the satirical tale, are shared with the pilgrims as examples of 'what philosophres [alchemists] seyn this mateere'

(VIII, line 1427). In the lines before this, the Yeoman does not mince his words as he warns his listeners of the sufferings of those mesmerised by alchemy's obscure language and grand promises:

> Lo! swich a lucre is in this lusty game,
> A mannes myrthe it wol turne unto grame,
> And empten also grete and hevye purses,
>   […]
> Ye that it use, I rede ye it leete,
> Lest ye lese al, for bet than nevere is late.
> Though ye prolle ay, ye shul it nevere fynde.
>   […]
> Medleth namoore with that art, I mene,
> For if ye doon, your thrift is goon ful clene. (VIII, lines 1402–25)

There is something of a non-sequitur as the Yeoman moves from these unambiguous warnings to the words of pseudo-Arnold of Villanova. If, however, one were to ascribe a connection, one would surely conclude that these quotations from the 'philosophres' are meant to accentuate the fact that 'philosophres speken so mystily', chattering 'as doon jayes'. This is the context in which Chaucer adapts the *De secretis*, misattributed in his quotation to the alchemical *Rosarius*, a more popular pseudo-Arnoldian text:

> Lo, thus seith Arnold of the Newe Toun,
> As his Rosarie maketh mencioun;
> seith right thus, withouten any lye:
> 'Ther may no man mercurie mortifie
> But it be with his brother knowlechyng';
> How [be] that he which that first seyde this thyng
> Of philosophres fader was, Hermes;
> He seith how that the dragon, doutelees,
> Ne dyeth nat but if that he be slayn
> With his brother; and that is for to sayn,
> By the dragon, Mercurie, and noon oother
> He understood, and brymstoon by his brother,
> That out of Sol and Luna were ydrawe. (VIII, lines 1428–40)

Whereas pseudo-Arnold in the *De secretis* had been explicit about the fact that killing mercury meant congealing or hardening it, the Yeoman provides no such clarification. Similarly, whereas pseudo-Arnold had simply stated that mercury is not killed expect with his

brother, the Yeoman complicates matters by saying that mercury is not killed 'but it be with his brother knowlechyng', introducing the concept mercury's brother's cognition. These complications, alongside the addition of 'brymstoon […] That out of Sol and Luna were ydrawe', turn the passage into an example of alchemical difficulty. Chaucer takes an atypically clear passage from a particularly opaque text and renders the passage more complex.

   That the pseudo-Arnold is actively presented as extremely difficult is made explicit when the Yeoman quotes from another section of the *De secretis*, presenting it as continuous with the above:

> 'And therfore,' seyde he — taak heede to my sawe —
> 'Lat no man bisye hym this art for to seche,
> But if he th'entencioun and speche
> Of philosophres understonde kan;
> And if he do, he is a lewed man.
> For this science and this konnyng,' quod he,
> 'Is of the secree of secretes, pardee.' (VIII, lines 1441–7)

In the *De secretis*, this passage is separated from the dragon and his brother by a long story concerning a monk who accidentally deceives people with his false alchemical recipes:

> Vidi autem unum monacum qui bene in ista arte laboraverat per viginti annos et nichil sciebat. Tunc ipse quasi desperatus fecit unum librum et intitulavit eum *Flos paradisi*, in quo plus quam 100 000 recepte sunt contente. Et illum librum dabat omnibus ad copiandum. Et sic gentes decipiebat et seipsum quia erat totus desperatus. (p. 512)

> I saw a monk, however, who had worked well in that art for twenty years and knew nothing. Then, as if desperate, he constructed a book and entitled it *Flos paradisi (The Flower of Paradise)*, in which there were contained more than a hundred thousand recipes. And he gave that book to all to copy. And thus, he deceived people and himself because he was completely desperate.

This monk is one of the 'fatuos' of whom pseudo-Arnold often speaks. Although he has worked on alchemy for twenty years, he still knows nothing about the science. Despite not understanding alchemy, he nonetheless writes a book of alchemical recipes that he circulates for copying. The motive for this circulation of false knowledge, pseudo-Arnold suggests, is desperation. This monk is not purposefully

deceiving; he is rather hoping in desperation that his ill-conceived understanding of alchemy is in fact correct. By doing so, he deceives not only those who copy his recipes but also himself. Pseudo-Arnold explains that the situation of this desperate monk is not uncommon in the world of alchemy. Only true philosophers are able to access the most secret of secrets: 'Igitur quicumque hanc scientiam querit non querat nisi sit philosophus quia de occultis occultorum' (Therefore, whoever seeks this knowledge will not find it unless he is a philosopher because it is of the secret of secrets; ibid.).

The first Canon of the 'Canon's Yeoman's Tale', that is the Yeoman's master, is not dissimilar to this desperate monk who deceives others, not through wilful guile, but rather through ignorance. At the end of *prima pars*, the Yeoman paints quite a pathetic portrait of the Canon when, placating his squabbling employees after yet another laboratory explosion, he nobly takes the blame: 'nexte tyme I wol fonde / To bryngen oure craft al in another plite, / And but I do, sires, lat me han the wite. / Ther was defaute in somwhat, wel I woot' (VIII, lines 951–4). This forever blundering, forever hopeful alchemist is the same one who, in the Yeoman's 'Prologue', performs alchemical tricks in order to secure gold from prospective clients:

> We blondren evere and pouren in the fir,
> And for al that we faille of oure desir,
> For evere we lakken oure conclusioun.
> To muchel folk we doon illusioun,
> And borwe gold, be it a pound or two,
> Or ten, or twelve, or manye sommes mo,
> And make hem wenen, at the leeste weye,
> That of a pound we koude make tweye.
> Yet is it fals, but ay we han good hope
> It for to doon, and after it we grope. (VIII, lines 670–9)

The Yeoman, who no longer gropes after the alchemical chimera, sees the desperation of the Canon's enterprise and acknowledges the extent to which other people were tricked out of their gold through his wishful thinking. In this way, the first Canon, like pseudo-Arnold's monk, 'worked well in that art and knew nothing'. Though not directly lifted from the *Liber de secretis naturae*, the character of the first Canon is surely drawn from pseudo-Arnold's earnest though misguided alchemist. However, where pseudo-Arnold's monk is a

foil to the alchemically wise master of the *De secretis*, Chaucer's first Canon exemplifies the foolishness of the whole endeavour.

By omitting any reference to pseudo-Arnold's monk at the end of the 'Canon's Yeoman's Tale', Chaucer has the Yeoman run straight from the discussion of the dragon and his brother to the warning that no man should undertake the art of alchemy, 'but if he th'en-tencioun and speche / Of philosophres understonde kan.' No one in the 'Canon's Yeoman's Tale' understands the intentions or the words of the philosophers. The cautionary tale of the alchemically ignorant monk would have no currency in a tale told by one who is in the pro-cess of liberating himself from the alchemical fallacy. According to the Yeoman, all those addicted to the impotent promises of alchemy are fools. In this end section, he reiterates the incomprehensibility of alchemical language: it is the 'secree of the secretes', '*ignotum per ignocius*', 'in no book […] write in no manere', hidden by Christ except to 'whom that him liketh', and even 'God of hevene / Ne wil nat that the philosophres nevene / How that a man shal come unto this stoon' (lines 1447–74). Whereas it is hard to argue that the rest of the 'Canon's Yeoman's Tale' is anything other than satirical, these final few lines continue to be cited as evidence that Chaucer believed in the possibility of alchemy. This is the wonderful thing about Chaucer's narrative craft: to those steeped in alchemical litera-ture, such references to God's secret knowledge are encouragements rather than deterrents. Alchemists believed that, if they worked hard enough and were devout enough, God's alchemical secrets, inscribed into nature, would be revealed to them. Remember, too, that Chau-cer is not a moralist; he is more playful than that. By quoting the words of alchemists talking about the difficult language in which they wrote, Chaucer lays bare the genuine temptation of their secrets and claims to God's 'pryvetee'. However, to my mind at least, this must be read within the context of the 'Canon's Yeoman's Tale' and, indeed, *The Canterbury Tales* as a whole, a poem that consistently casts a sceptical eye on the way in which claims to hidden knowledge can be used to manipulate others.

Impotent Alchemical 'Pryvetee'

The word 'pryvetee' has received a lot of attention in Chaucer studies.[34] As a word that is used to refer both to genitalia and to God's hidden secrets, it encapsulates, as Laura Kendrick has argued, Chaucer's playful oscillation between the profane and the profound. The drunken Miller makes explicit the multiple meanings of 'pryvetee' as he warns his listeners against enquiring too deeply into the goings on of their wives:

> An housbonde shal nat been inquisityf
> Of Goddes pryvetee, nor of his wyf.
> So he may fynde Goddes foyson there,
> Of the remenant nedeth nat enquere. (I, lines 3163–6)

The discussion prior to this, between the Miller and the Reeve, had been firmly rooted in cuckoldry and had nothing to do with the secrets of God. True to form, the Miller undermines a lofty concept through his worldliness. He would rather live in ignorant bliss than worry himself about what his wife gets up to when he is away. By introducing this idea of God's 'pryvetee', the Miller not only conjures up fleeting images of divine sex organs, but he also establishes a premise that will run throughout his tale and, indeed, many of the other pilgrims' tales: being curious about the hidden secrets of God will bring you nothing but ruin, whilst pretending to know the secrets of God can bring you fortune.

   In the 'Miller's Tale', Nicholas the clerk cuckolds John the 'sely carpenter' (I, line 3423) through claims of astrological divination. John is a fool who, like the Miller, believes that men should not pry

---

[34] Ethan Smilie, '*Goddes Pryvetee* and a *Wyf: Curiositas* and the Triadic Sins in the Miller's and Reeve's Tales', *Christianity and Literature* 65 (2015), pp. 4–26; Louise M. Bishop, '"Of Goddes pryvetee nor of hys wyf": Confusion of Orifices in Chaucer's "Miller's Tale"', *Texas Studies in Literature and Language* 44 (2002), pp. 231–46; R. H. Hanning, 'Telling the Private Parts: "Pryvetee" and Poetry in Chaucer's *Canterbury Tales*', in *The Idea of Medieval Literature*, ed. James M. Dean and Christina K. Zacher (Newark, DE: University of Delaware Press, 1992), pp. 108–25; Laura Kendrick, *Chaucerian Play: Comedy and Control in the Canterbury Tales* (Berkeley, CA: University of California Press, 1988); Paula Neuss, 'Double-Entendre in the "Miller's Tale"', *Essays in Criticism* 24 (1974), pp. 325–40.

into God's secret ways: 'Men sholde nat knowe of Goddes pryvetee. / Ye, blessed be alwey a lewed man / That noght but oonly his bileve kan' (I, lines 3454–6). He says this at the very moment that Nicholas, pretending to be in a divine trance, takes advantage of his gullibility. Desire for knowledge, according to John, can lead a man to 'woodnesse' or 'some agonye' (line 3452). As Nicholas pretends to come to, the carpenter's advice is to 'thenk on Cristes passioun' and to 'thynk on God, as we doon, men that swynke' (I, line 3478 & line 3491). He advises him on the reassuring physicality of a worker's religion, replete with 'elves', 'wightes', and 'nyght-spel[s]' (I, lines 3479–80). Chaucer presents this as a comic image of an uneducated fool teaching a clerk about God. The humour is heightened through the carpenter's clichéd reference to the philosopher who falls into a pit because he is too fixated on the stars; it is John and not Nicholas whose worldly situation is being jeopardised through this astral gazing. Despite declaring his suspicion of attempts to understand God's 'pryvetee', John, unthinking and credulous, is quick to believe Nicholas' false vision. When Nicholas convinces the carpenter that he is to be a second Noah, he foreshadows the Friar's summoner, the Summoner's friar, the Pardoner, and the second canon of the 'Canon's Yeoman's Tale'. Each of these figures manipulates the language of knowledge and of God for economic or sexual gain.

The influence of Boethius' *De Consolatione philosophiae* on Chaucer, and indeed on medieval literature more broadly, cannot be overstated. One of the central tenets of Boethius' philosophy, omnipresent in medieval culture, was that mankind should not focus on the vicissitudes of Fortune; that is, one should not care for the ups and downs of worldly goods, governed by blind Fortune and her wheel, but rather seek happiness in God, infinite and unchanging. Whilst there are no explicit Boethian references in the 'Canon's Yeoman's Tale', Bruce Grenberg has suggested numerous parallels between the two texts, noting that the Yeoman has 'been led astray by "the desceyvable delyt of erthly thynges"', and yet performs a sort of conversion throughout the tale as he turns away from a materially focused alchemy towards the 'truly good [which] is to be found not in the imperfections of created good but in the perfection of the

uncreated good — in God'.[35] And yet, there is another aspect of
Boethius' *Consolation* that has gone largely unnoticed in scholarly
work on the 'Canon's Yeoman's Tale' and that is the notion of God's
hidden secrets. In book 4, prosa 6 of the *Consolation*, Lady Phil-
osophy explains to the disconsolate Boethius that there are some
things that mankind cannot understand. Constrained by time and
mortality, man cannot see or comprehend the 'stable symplicite of
purveaunce' (*Boece*, book 6, prosa 6, line 106), as Chaucer himself
translates it. Man cannot see God's divine plan for the universe;
he can only see how that plan plays out through time and 'destyne'
(book 4, prosa 6, line 107). Lady Philosophy does state that man can
comprehend the causes of things, such as why snow melts, why the
sea gets choppy, or why the planets and stars move in a certain way,
however he cannot see beyond these causes to the ultimate divine
reason. This, we assume is God's 'pryvetee', the secret that is 'so lief
and deere' to Christ that he 'wol nat that it discovered bee' except by
those picked out by grace. The language with which Lady Philoso-
phy explains to Boethius the unchangeability of the divine plan is
rooted in natural philosophy:

> Thilke ordenaunce moveth the hevene and the sterres, and atem-
> prith the elementz togidre amonges hemself, and transformeth
> hem by entrechaungeable mutacioun. And thilke same ordre
> neweth ayein alle thinges growynge and fallynge adoun, by sem-
> blable progressions of sedes and of sexes (that is to seyn, male and
> femele). And this ilke ordre constreyneth the fortunes and the
> dedes of men by a bond of causes nat able to ben unbownde; the
> whiche destynal causes, whan thei passen out fro the bygynnyn-
> ges of the unmoevable purveaunce, it moot nedes be that thei ne
> be nat mutable […] For whiche it es that alle thingis semen to
> ben confus and trouble to us men, for we ne mowen nat considere
> thilke ordenaunce. (book 6, prosa 6, lines 146–68)

[35] Bruce L. Grenberg, 'The "Canon's Yeoman's Tale": Boethian Wisdom
     and the Alchemists', *The Chaucer Review* 1 (1966), pp. 53–4. He quotes
     Chaucer's *Boece*, book 3, metrum 10, line 3. See also Joseph E. Gren-
     nen, 'The Canon's Yeoman's Alchemical "Mass"', *Studies in Philology*
     62 (1965), pp. 546–60; Joseph E. Grennen, 'The Canon's Yeoman and
     the Cosmic Furnace: Language and Meaning in the "Canon's Yeoman's
     Tale"', *Criticism* 4 (1962), pp. 225–40; Bruce Rosenberg, 'Swindling Al-
     chemist, Antichrist', *The Centennial Review* 6 (1962), pp. 566–80.

The movements of the planets, the transmutation of elements, and even sexual reproduction are natural changes that are governed by the 'unmoevable purveaunce'. These natural occurrences might seem unordered to us, but are in fact laid out through a divine plan unintelligible to humankind.

However, it is precisely the way in which God, through nature, 'atemprith the elementz […] and transformeth hem by entrechaungeable mutacioun' that alchemists attempted both to discover and to recreate. They believed that they had the right and the wherewithal to delve into the 'archanum Dei'. The Yeoman warns his pilgrim audience that this yearning to uncover divine secrets goes, as Boethius suggests, against God's will:

> Thanne conclude I thus, sith that God of hevene
> Ne wil nat that the philosophres nevene
> How that a man shal come unto this stoon,
> I rede, as for the beste, lete it goon.
> For whoso maketh God his adversarie,
> As for to werken any thyng in contrarie
> Of his wil, certes, never shal he thryve. (VIII, lines 1472–8)

Of course, this could be read alongside John the carpenter's celebration of being a 'lewed man / That noght but oonly his bileve kan' (I, lines 3455–6), the Yeoman thereby becoming a wilful fool. However, unlike the comic character of John, the Yeoman speaks with an earnest and well-reasoned confessional voice. Whereas John is oblivious to things spiritual and worldly, the Yeoman is well aware of the worldly ways in which the language of alchemy can be manipulated, as manifested in the markedly material tale of the priest-duping second canon. And so, whilst the tradition of alchemical literature ensures that there will always be those who see a 'true' alchemy behind the Yeoman's failings, this final warning is not charged with irony. Chaucer, who incorporated Boethius into all of his major texts, has the Yeoman suggest that the work of the alchemist, attempting to alter the 'ordenaunce' of the universe, goes against the will of God. There is an impotence to the attempts to discover God's 'pryvetee'; mankind is fruitless in comparison to God's creative force. Though he never makes it explicit, Chaucer does not shy away from the prospect of God's 'pryvetee' being a sort of divine sexual potency that mankind cannot access.

Whilst the 'Miller's Tale' does not deal explicitly with alchemy, it does shed light on the concept of 'pryvetee' that is so important to the end of the 'Canon's Yeoman's Tale'. In both tales, the secrets of God, unattainable by humankind, are manipulated by those who have a command of language for worldly ends. The 'Second Nun's Tale', the other tale of fragment VIII, includes another a figure who claims to have access to what Robert Longsworth calls 'privileged knowledge'.[36] Indeed, reading the 'Miller's Tale', the 'Canon's Yeoman's Tale', and the 'Second Nun's Tale' invites some interesting comparisons. The Second Nun, speaking right before the Canon's Yeoman, tells the legend of St Cecelia, the clear-visioned virgin. After an invocation to Mary and a pseudo-etymology of the name Cecelia, the Second Nun introduces her listeners to this saint who, despite being married, wants to remain a virgin. When she asks Valerian, her new husband, if they can live a life of chastity, she justifies herself by saying 'I have an aungel which that loveth me' (VIII, line 152). Like the Joseph of the mystery plays, Valerian is somewhat suspicious of this claim; he demands to see this angel to discern whether or not 'it a verray angel be' (VIII, line 165). If the angel turns out to be another man, he threatens to kill them both. In the 'Miller's Prologue', the drunkard promises to tell a tale of 'a legende and a lyf / Bothe of a carpenter and of his wyf' (I, lines 3141–2), toying with the prospect of a bawdy fabliau/hagiography of Joseph and Mary. Similarly, the beginning of the 'Second Nun's Tale' hints at this uncomfortable blurring of genres through the threat of divine cuckoldry. Unlike the Miller and 'sely' John, Valerian is 'inquisityf' of both his wife's and God's 'pryvetee'. However, when Valerian, and with him the reader, eventually sees the 'oold man, clad in white clothes cleere' (VIII, line 201) there is a visual and definitive validation of Cecilia's privileged knowledge. Sherry Reames explores this moment, commenting on how Chaucer modified his source, the *Legenda Aurea* of Jacobus de Voragine, so that Valerian's conversion only happens after seeing this angel.[37] Chaucer emphasises the importance of seeing something to

---

[36] Robert M. Longsworth, 'Privileged Knowledge: St. Cecilia and the Alchemist in the *Canterbury Tales*', *The Chaucer Review* 27 (1992), pp. 87–96.

[37] Sherry L. Reames, 'The Cecilia Legend as Chaucer Inherited It and Retold It: The Disappearance of an Augustinian Ideal', *Speculum* 55 (1980), pp. 42–3.

be true in order to believe it. It is a truth that is based in the world of experience.

In the 'Canon's Yeoman's Tale', seeing is believing. Indeed, it is Harry Bailey's scepticism in the 'Canon's Yeoman's Prologue' that initiates the tale itself. It is only after Harry casts doubt on the Canon's alchemical ability that the master flees in shame, leaving the Yeoman free to unburden his woes. After the Yeoman has claimed that his master could pave the road to Canterbury with gold, an apt metaphor for alchemy's irreligious fixation on materiality, Harry Bailey takes a good look at the Canon and asks why, if he has such power, he is so poorly dressed:

> Why is thy lord so sluttissh, I the preye,
> And is of power bettre clooth to beye,
> If that his dede accorde with thy speche?
> Telle me that, and that I thee biseche. (VIII, lines 636–9)

This is the moment that the Yeoman switches from trying to swindle money from the pilgrims to one who lambasts the practice of alchemy. The straight talking of the Host, who throughout *The Canterbury Tales* refuses to be deceived, gets to the heart of the matter, that is the extent to which the 'dede accorde with [the] speche'. After a few basic questions, the Canon depreciates from a 'passyng man' (VIII, line 614) whom the pilgrims would be honoured to befriend, to a failure of a man with 'over-greet a wit' (VIII, line 648), lurking in the suburbs among 'robbours' and 'theves' (VIII, line 659), borrowing and losing money on pointless experiments. The Canon, according to the Yeoman, is intellectually impotent. He is no fool; he is 'to wys' (VIII, line 644) and yet can never achieve his desire. Harry Bailey's frank questioning, initiated by the Canon's dishevelled clothing, cuts through the promises of alchemy, just as it had done the Pardoner's attempt to sell his false relics (VI, lines 919–55).

At the end of the 'Canon's Yeoman's Prologue', Chaucer once again plays with the concept of 'pryvetee'. Fearful that his servant is giving away too much information to the pilgrims, the Canon rides up to the Yeoman and tells him to shut up:

> "Hoold thou thy pees and spek no wordes mo,
> For if thou do, thou shalt it deere abye.
> Thou sclaundrest me heere in this compaignye,
> And eek dicoverest that thou sholdest hyde." (VIII, lines 693–6)

Prevaricating, the Canon complains that the Yeoman slanders him by revealing that which should stay hidden. The hidden secrets of alchemy, so often portrayed in alchemical literature as synonymous with the hidden secrets of God, become nothing other than the hidden truth that alchemy is fundamentally useless. Boldly, with a bit of encouragement from the Host, the Yeoman refuses to remain quiet.

> And whan this Chanon saugh it wolde nat bee,
> But his Yeman wolde telle his pryvetee,
> He fledde awey for verray sorwe and shame. (VIII, lines 700–2)

The Canon joins the long list of alchemists who fear the revelation of their secrets:

> Et omni filio doctrine precipimus et prohibemus sub pena anath-ematis et maledictionis divine, quod nostrum dictum secretum nolit revelare inimicis stantibus contra naturam, sed bene celare et tenere secrete, quod nullus sciat.[38]

> We command to all the sons of the doctrine, forbidding under pain of anathema and divine malediction, that they must not reveal our secret to the enemies of Nature, but cover it well and keep it secret, so that no one may know it.

Although, unlike pseudo-Ramon Lull, who hides alchemical secrets so that the 'enemies of Nature' will not debase such knowledge and bring harm to the natural world, the Canon's secret is his alchemical impotence. The Yeoman does reveal the secret truths of alchemy; by regurgitating a long list of useless paraphernalia, detailing endless failed experiments, and telling stories of wilful deceit, he lays bare the disappointing fruitlessness behind alchemy's blustering promises.

In the vein of the Wife of Bath, the Yeoman's confessional chal-lenges the 'auctoritee' (III, line 1) of alchemical lore with seven years of lived experience. With the departure of the Canon, the Yeoman is free to speak about his experience of 'that slidynge science' (VIII, line 732). Eight out of the eleven times Chaucer uses the word 'slidynge' are in either *Boece* or *Troilus and Criseyde*. According to Philosophy, the vicissitudes of Fortune are 'slidynge' (book 1, metrum 5, line 34),

---

[38] Pseudo-Ramon Lull, *Il 'Testamentum' Alchemico Attribuito A Raimun-do Lullio*, ed. and trans. Michela Pereira and Barbara Spaggiari (Tavar-nuzze: SISMEL, 1999), p. 10.

but the divine substance 'slideth nat' (book 3, prosa 12, line 190). The souls of men are free when they contemplate divinity and less free when then 'slyden into the bodies' (book 5, prosa 2, lines 29–30). Proud kings, sitting in glittering chairs on the wheel of Fortune, are tormented by their 'slidynge and desceyvynge hope' (book 4, metrum 2, line 14). Troilus and Troy 'slide' knotless through the heart of Criseyde (*Troilus and Criseyde*, book 5, line 769), who is later described as 'slydynge of corage' (book 5, line 825). The only other time the word is used, outside of *Boece*, *Troilus*, and the Canon's Yeoman's Tale', is to describe the worldly faults of Walter at the beginning of the 'Clerk's Tale':

> I blame hym thus: that he considered noght
> In tyme comynge what myghte hym bityde,
> But on his lust present was al his thoght,
> As for to hauke and hunte on every syde.
> Wel ny all othere cures leet he slyde. (IV, lines 78–81)

For Chaucer, 'slidynge' was associated with worldliness, deceit, short-sightedness and mutability. The 'slidynge' science of alchemy has nothing to do with divine secrets or immutable knowledge, but rather its worldly opposite.

Twice in *pars secunda* of the 'Canon's Yeoman's Tale', the deceitful canon refers to his alchemical secrets as his 'pryvetee' (VIII, line 1052 & line 1139). His secrets are nothing more than cheap tricks, evidently practised by alchemists throughout Europe, as suggested by the Iberian tales and the recipe of Jean de Rupescissa. Alchemists claimed to guard jealously the secrets of nature and, sometimes, the secrets of God. For Chaucer, a translator of Boethius, these claims must have rankled. The 'pryvetee' of the alchemists, as revealed through the lived experience of the Yeoman, are impotent attempts to recreate the fertile creativity of God. More than any of the other tales that concern manipulation and deceit, the 'Canon's Yeoman's Tale' spends time understanding the process by which people can be manipulated by obscure language and grand promises. The Yeoman spells out the addiction of that which is always just out of reach and the self-deception involved in maintaining false belief. Even if the by-product of this perpetual yearning was the discovery of certain substances or chemical processes, the metallurgical alchemy of which the Yeoman speaks draws intelligent, often religious, men from their primary subject of devotion: God. Jackson Campbell convincingly

argues that the 'Canon's Yeoman's Tale', occurring at 'Boghtoun under Blee' (Boughton-under-Blean; VIII, line 556), which is two hours walk from Canterbury, paves the way for the penitent 'Parson's Tale'.[39] Campbell argues that the 'Canon's Yeoman's Tale' signifies a turning point from worldliness to earnest repentance. At the end of the tale, the Yeoman exhorts his listeners to avoid making God their adversary and stop attempting to discover his secret ways.

And yet, just as there are continued debates over the extent to which the 'Parson's Tale' and the 'Retraction' can be taken at face value, Chaucer leaves the door slightly ajar for those who want to find alchemical secrets in the 'Canon's Yeoman's Tale'. The Yeoman is not Petrarch's Reason, and so cannot be read as the embodiment of a rational mind. Like the authors of the alchemical texts that inspired the tale, Chaucer instils intellectual anxiety into his reader. The tale communicates different things to different readers. To those who have not read alchemical literature, it is quite obviously a satire of the impotence of alchemy. To those who have read alchemical literature, the Yeoman can be recognised as the long-standing trope of the alchemical fool, conjured up in order to define the 'true' alchemy of the author against the 'false' alchemy of everyday multipliers and deceivers. As demonstrated by its reception history, the 'Canon's Yeoman's Tale' can be both a denigration of alchemy in its entirety and an endorsement of this 'true' alchemy; it just depends on who is reading it. As one who has read a number of alchemical texts, but with reservations about their pedagogical merit, I surmise that Chaucer's treatment of alchemy in the 'Canon's Yeoman's Tale' – in the context of *The Canterbury Tales* as a whole – acknowledges, but ultimately dismisses, the allure of alchemy's hidden secrets. In fact, the ending of the tale, by allowing for the glimmer of hope that there may well be a 'true' alchemy beyond the shortcomings of the Yeoman's ken, only serves to accentuate how tempting alchemical language can be. Chaucer successfully performs a hermeneutic trick on his readers of the sort that the Pardoner had attempted to perform on the pilgrims at the end of the 'Pardoner's Tale'; despite having completely undermined the legitimacy of alchemy through logic, reason, and experience, Chaucer opens up the possibility that

---

[39] Jackson J. Campbell, 'The Canon's Yeoman as Imperfect Paradigm', *The Chaucer Review* 17 (1982), pp. 171–81.

a true alchemy does exist. As we might conclude that it is only the Pardoner's relics that are fake – and certainly not those of St Thomas Becket at Canterbury – might we also conclude that it is only the Yeoman's alchemy that is false? These are the hermeneutic games that Chaucer plays. To try to answer this question definitively would be to take away from the ludic qualities of the 'Canon's Yeoman's Tale'. However, what is clear is that Chaucer is interested in the potency of divine 'pryvetee' and how human attempts to approach such hidden parts end in humiliation. The language of alchemy, just like the language of religion, can be manipulated by those who know their stuff. Pretending to wield powerful secrets, and obscuring those empty secrets in difficult language, is the intellectual way to hold power over others.

Alchemical Theories of Social Reform

Chaucer's vision of the impotence of the obscure language of alchemy, distilled and dramatised by Ben Jonson over two hundred years later, has become the most recognisable depiction of alchemy to a contemporary, postmodern readership. The word *alchemy* conjures images of superstition, duplicity, and bombast. In this vision of alchemy, puffed-up fools are duped on account of their yearning for riches and glory; it is only those who cynically manipulate the language of alchemy who can truly reap its benefits through deceit. This is a vision of alchemy that is particularly well suited to a disillusioned and materially focussed world of deconstruction and language-as-power. However, there was another, less sceptical approach to the impenetrable language of alchemy in the literature of the Middle Ages: in the works of Roger Bacon, John Gower, and Thomas Norton, the difficulty of alchemical language was a sign of the potential for social reform. The philosopher, the poet, and alchemist all believed that if the right person could understand the impenetrable secrets of alchemy, he could bring about a complete reformation of Christian/English society.

Roger Bacon's Holistic Alchemy

Roger Bacon (c. 1219–1292), a Franciscan friar who flitted between the Universities of Oxford and Paris, was an advocate of 'scientia experimentalis' (knowledge from experience/experimental knowledge), a controversial theory of education drawn largely from the teachings of Aristotle.[1] In 1267, Bacon sent the voluminous *Opus*

---

[1]   Roger Bacon, *Opus majus*, ed. John Henry Bridges, 2 vols (Oxford: Clarendon Press, 1897), book 6, p. 172. All further references will be to this edition.

majus to his patron, Pope Clement IV, explaining this new system of education and how it would benefit Christendom.[2] The defining premise of *scientia experimentalis* was that experience rather than argumentation should be at the heart of ascertaining whether something was true or not:

> Argumentum concludit et facit nos concedere conclusionem, sed non certificat neque removet dubitationem ut quiescat animus in intuitu veritatis, nisi eam inveniat via experientiae. (p. 167)

> Reasoning draws a conclusion and makes us grant the conclusion, but does not make the conclusion certain, nor does it remove doubt so that the mind may rest on the intuition of truth, unless the mind discovers it by the path of experience.[3]

Towards the end of his discussion of *scientia experimentalis*, Bacon introduces alchemy as an exemplary form of this revolutionary new system of education: 'exemplificari potest hujus scientiae dignitas in alkimia' (the dignity of this science can be exemplified in alchemy; p. 214, trans. p. 626).[4]

Bacon's conception of alchemy, the pinnacle of his *scientia experimentalis*, went beyond turning base metals into gold:

> Nam illa medicina, quae tolleret omnes immunditias et corruptiones metalli vilioris, ut fieret argentum et aurum purissimum, aestimatur a sapientibus posse tollere corruptiones corporis

---

[2] For a brief summary of two potential chronologies of Bacon's life, see Jeremiah Hackett, 'Roger Bacon', in *A Companion to Philosophy in the Middle Ages*, ed. Jorge J. E. Gracia and Timothy N. Noone (Malden, MA: Blackwell, 2006), p. 616.

[3] Robert Belle Burke in Roger Bacon, *Opus majus*, trans. Robert Belle Burke, 2 vols (Philadelphia, PA: University of Pennsylvania Press, 1928), p. 583. All further translations of the *Opus majus* will be from this edition.

[4] For discussions of Bacon's conception of alchemy, see Edmund Brehm, 'Roger Bacon's Place in the History of Alchemy', *Ambix* 23 (1976), pp. 53–8; William Newman, 'An Overview of Roger Bacon's Alchemy', in *Roger Bacon and the Sciences: Commemorative Essays*, ed. Jeremiah Hackett (Leiden: Brill, 1997), pp. 317–36; Zachary Matus, 'Reconsidering Roger Bacon's Apocalypticism in Light of his Alchemical and Scientific Thought', *Harvard Theological Review* 105 (2012), pp. 189–22; Moureau, '*Elixir atque fermentum*', pp. 277–325.

humani in tantum, ut vitam per multa secula prolongaret. Et hoc est corpus ex elementis temperatum, de quo prius dictum est. (p. 215)

For that medicine which would remove all the impurities and corruptions of a baser metal, so that it should become silver and purest gold, is thought by [wise men] to be able to remove the corruptions of the human body to such an extent that it would prolong life for many ages. This is the tempered body of elements, of which I spoke above.[5] (p. 627)

Bacon's alchemy was one that had the power both to transmute metals and to prolong human life; his alchemical goal was to create a 'tempered body of elements' that could cure base metals of their baseness and sick humans of their sickness. He believed that if anyone had the ability to manipulate the four elements (earth, water, air, and fire) to such an extent that the elements could be kept in equilibrium, that person would possess this sought-after medicine:

Si vero elementa praepararentur et purificarentur in aliquo mixto quocunque, ita quod nulla infectio esset unius per aliud, sed reducerentur ad puram simplicitatem, tunc aestimaverunt sapientissimi quod summam medicinam haberent. Nam sic essent elementa aequalia. (p. 211)

If the elements should be prepared and purified in some mixture, so that there would be no action of one element on another, but so that they would be reduced to pure simplicity, the wisest have judged they would have the most perfect medicine. For in this way the elements would be equal. (p. 624)

Alchemy, according to Bacon, was a manipulation of the elements that could make matter (particularly metals and the human body) better. In the *Opus tertium*, written after both the *Opus majus* and the *Opus minus* (an abridged version of the *Opus majus*) and intended to act as an introduction to the two, Bacon uses the term 'alkimia speculativa' (speculative or theoretical alchemy) to describe elemental balance, the manufacture of gold, and the prolongation of life.[6] This

---

[5] Translation modified. Burke has 'scientists' for 'wise men'.
[6] Roger Bacon, *Opus tertium*, in *Opera quaedam hactenus inedita Rogeri Baconi I: Opus tertium, Opus minus, Compendium philosophiae*, ed. J. S. Brewer (London: Longman, 1859), p. 39.

speculative alchemy involves making things through the manipulation of the elements: 'Est de rerum generatione ex elementis, et de omnibus rebus inanimatis' (it concerns the generation of things from the elements and of all inanimate things).[7] Bacon's is a holistic conception of alchemy; through manipulating the elements, he believed, an alchemist could improve all manner of things.

In the *Opus majus*, Bacon suggests that a lack of both physical and spiritual self-care has meant that humans have passed on brevity of life to their sons and daughters:

> Et ideo patres corrumpuntur, et generant filios corruptos, et habentes dispositionem ad mortis festinationem. Et deinde per defectum regiminis filii corrumpunt seipsos, et sic filius filii habet dispositionem malam duplicem, et tertio seipsum corrumpit propter defectum regiminis […] Et non solum haec causa accidentalis invenitur, sed alia quae consistit in defectu regiminis morum. Peccata enim debilitant vires animae, ita quod impotens est ad corporis regimen naturale; et ideo debilitantur vires corporis, et festinat ad mortem; et haec corruptio currit a patre ad filium, et sic ulterius. (p. 205)

> Therefore fathers are weakened and beget weak sons with a liability to premature death. Then by neglect of the rules of health the sons weaken themselves, and thus the son's son has a doubly weakened constitution, and in his turn weakens himself by a disregard of these rules […] Not only is there this accidental cause, but there is also another, consisting in the disregard of morals. For sins weaken the powers of the soul, so that it is incompetent for the natural control of the body; and therefore the powers of the body are weakened and life is shortened. This weakening passes from father to son, and so on. (p. 618)

This degeneration, Bacon argues, is 'contra naturam' (against nature). Whilst this hereditary neglect of physical and moral self-discipline had created a weak society, Bacon believed that such degeneration could be overcome. He believed that God had given Adam and his sons a 'secretorum secretissima […] quatenus vitam suam longius protenderent' (most secret of secrets […] in order that they might prolong their life; pp. 208–9, trans. p. 621). If this secret could be

---

7   Ibid.

discovered and understood, Bacon argued, it would reverse the processes of degeneration that had weakened both the constitutions and the morals of mankind. The reason why Bacon was so excited about his new system of education was because he thought that he had found this very secret for improving the lives of mankind: 'Sic videndum est per Aristotelem in libro Secretorum' (We can learn the same through Aristotle in the book of *Secrets*; ibid.). This sentence follows immediately after his statement concerning the prolongation of life. Bacon suggests that the *Secretum secretorum*, erroneously thought to have been penned by Aristotle, contained this divine alchemical secret, the answer to millennia of degeneration.

   One aspect of Bacon's conception of alchemy that is often overlooked is his belief that alchemy had the ability to improve the morals and customs of a population, an idea stemming from a misreading of the *Secretum secretorum*.[8] Purportedly a book of advice sent from Aristotle to Alexander, the *Secretum* greatly influenced Bacon's understanding of alchemy. A tenth-century Arabic text, the *Kitāb Sirr al-Asrar* (*The Secret Book of Secrets*) was partially translated into Latin in the late twelfth century by John of Seville in Toledo. A full translation of an expanded version of the *Sirr al-Asrar* was then made around the middle of the thirteenth century by Philip of Tripoli in Antioch.[9] Between around 1270 and 1292, Bacon produced his own edition of Philip's translation of the *Secretum*, replete with glosses, notes, and an introduction.[10] What appealed to

[8]   The episode is briefly mentioned in the following studies: Jeremiah Hackett, 'Roger Bacon on *Scientia Experimentalis*', in *Roger Bacon and the Sciences*, pp. 308–11; Steven J. Williams, 'Roger Bacon and the *Secret of Secrets*', in *Roger Bacon and the Sciences*, pp. 387–8; Amanda Power, *Roger Bacon and the Defence of Christendom* (Cambridge: Cambridge University Press, 2013), pp. 248–51.

[9]   Steven J. Williams, *The Secret of Secrets: The Scholarly Career of a Pseudo-Aristotelian Text in the Latin Middle Ages* (Ann Arbor, MI: University of Michigan Press, 2003), p. 29. For the genesis of the Arabic text, see Mahmoud Manzalaoui, 'The Pseudo-Aristotelian *Kitab Sirr al-asrar*: Facts and Problems', *Oriens* 23–4 (1974), pp. 147–257; Mario Grignaschi, 'L'origine et les métamorphoses du *sirr al' asrar*', *Archives d'histoire doctrinale et littéraire du moyen âge* 43 (1976), pp. 9–112.

[10] For a discussion of Bacon's relationship to the *Secretum*, see Steven J. Williams, 'Roger Bacon and his Edition of the Pseudo-Aristotelian

Bacon about the *Secretum* was the implication that it was through the secrets revealed by Aristotle to Alexander that the latter conquered the known world. The power of the most secret of secrets, as Bacon argued in the *Opus majus*, could be similarly harnessed by the Church to counter the rise of the Antichrist:

> Facile patet per praedicta quomodo per vias sapientiae potuit Aristoteles mundum tradere Alexandro. Et hoc deberet ecclesia considerare contra infideles et rebelles, ut parcatur sanguini Christiano et maxime propter futura pericula in temporibus Antichristi. (p. 222)

> It is easily apparent from what has been said how by the paths of knowledge Aristotle was able to hand over the world to Alexander. Moreover, the Church should consider the employment of these [discoveries] against unbelievers and rebels, in order that it may spare Christian blood, and especially should it do so because of future perils in the times of Antichrist. (p. 634)

With the knowledge that Aristotle imparted to Alexander, Bacon believed that the Church could lay waste to its enemies and prepare itself for the imminent advent of the Antichrist.[11] One such piece of knowledge that Bacon exhorts the Church to learn is Alexander's realisation of the power 'in alteratione regionis, ut mores vulgi alterentur' (in changing the character of a region, so that the habits of its people are changed; p. 216, trans. p. 628). Having mentioned this power, Bacon then paraphrases a section from his edition of the *Secretum* in which Alexander asks Aristotle whether or not he should slay the Persians. Aristotle responds by saying that rather than slay them, Alexander should manipulate their air:

> 'Si potes alterare aerem ipsorum, permitte eos vivere; si non, interfice eos.' Voluit enim quod aer eorum potuit alterari utiliter, ut complexiones corporum eorum alterentur, et deinde animi excitati per complexiones elicerent bonos mores ex arbitrii libertate. (p. 216)

> 'If you can alter their air permit them to live; if you cannot, then kill them.' For he maintained that the air of these nations could be changed advantageously, so that the complexions of their

Secretum secretorum', *Speculum* 69 (1994), pp. 57–73.

11 For Bacon's apocalypticism, see Matus, 'Bacon's Apocalypticism'.

bodies would be changed, and then their minds influenced by
their complexions would choose good morals in accordance with
the freedom of the will. (p. 628)

This, Bacon says, 'est unum ex secretis' (is one of the secrets; ibid.):
if Alexander has the ability to manipulate the air of the Persians, he
can manipulate their minds.

   Bacon returns to this incident from the *Secretum* a number
of times throughout his oeuvre. It seems to exemplify his hope
for *alkimia speculativa*, which he trusted could improve the world
through knowledge. However, his is a rather singular reading of the
Secretum. Indeed, his edition of the *Secretum* differs from Philip of
Tripoli's thirteenth-century translation by one crucial word in this
section. In Bacon's edition, Aristotle advises Alexander as follows:

> Si non potes illius terre mutare aerem et aquam, insuper et dis-
> posicionem civitatum, imple tuum propositum. Si potes dominari
> super eos cum bonitate, exaudies eos cum benignitate.[12]

> If you are not able to change the air and the water of this land, as
> well as the ways of the people, affect your proposal [i.e. slaughter
> the Persians]. If you are able to rule over them with goodness, you
> will hear them kindly.

This correlates with the above paraphrase in the *Opus majus*: Bacon
has Aristotle suggest that if Alexander could manipulate the air and
the water, then he would be able to rule over the Persians benevo-
lently; he must have the wherewithal to manipulate the elements
and thereby manipulate their customs. This much Bacon states in a
note to this section:

> Si non potes illius terre mutare aerem et aquam, etc. Hic tangit
> maximum secretum. Vult enim quod Alexander deberet mutare
> malas qualitates terre et aeris illarum regionum in bonas, ut hom-
> inum complexio mala mutaretur in bonam, et ut sic mali mores
> mutarentur in bonos.[13]

---

[12] Roger Bacon, *Opera hactenus inedita Rogeri Baconi V: Secretum secretorum
    cum glossis et notulis*, ed. Robert Steele (Oxford: Clarendon Press, 1920),
    p. 38.
[13] Ibid., n. 4.

'If you are not able to change, the air, and the water of this land etc.' This touches the greatest secret. For he believes that Alexander ought to change the bad qualities of the earth and the air of those regions into good, so that the bad constitution of men might be transformed into good, and so that bad customs would in this way be transformed into good.

The 'greatest secret', which is the same term by which Aristotle calls the secret of alchemy later in the *Secretum*,[14] involves changing the customs and morals of men through elemental manipulation. However, this is not the common edition of this passage. Philip of Tripoli and all those who have subsequently translated the *Secretum* into various vernacular languages render the passage so that the concept of manipulating the elements is presented as an absurdity:[15]

Si potes mutare illi*us* terre aerem *et* aqua*m* insup*er et* dispositione*m* ciuitatu*m*, imple tuu*m* p*r*opositu*m*. Sin autem dominare sup*er* eos cum bonitate *et* exaudie*s* cum benignitate.[16]

If you are able to change the air and the water of this land as well as the ways of the people, do as you wish [i.e. slaughter the Persians]. If not, however, rule over them with goodness and hear them kindly.

This more orthodox edition of the *Secretum*, adhering more closely to the Arabic original,[17] argues that the task of trying to change the

---

14 Bacon, *Secretum*, p. 114.
15 For French and English translations of this passage, see Pierre D'Abernum of Fetcham, *Le secré de secrez*, ed. Oliver A. Beckerlegge, Anglo-Norman Texts 5 (Oxford: Basil Blackwell, 1944), p. 2, lines 54–63; John Lydgate and Benedict Burgh, *Secrees of Old Philisoffres*, ed. Robert Steele, EETS, ES 66 (London: Kegan Paul, Trench, & Trübner, 1894), lines 162–8. All further references will be to this edition.
16 This is transcribed from a thirteenth-century manuscript of the *Secretum*: BL, MS Egerton 2672, folio 7r. There are at least 57 manuscripts of Philip of Tripoli's translation of the *Secretum* that date from before 1325 (Williams, *Secret*, pp. 388–408). Of the five that I have seen, none include the 'non' of Bacon's version. BL, MSS Sloane 1934, folio 86v; Additional 47680, folio 10r; Royal 9 B II, folio 137v; Royal 12 C VI, folio 14r.
17 See Robert Steele (trans.), 'The Translation from the Arabic', in *Secretum secretorum*, p. 177.

constitutions of Persia and the Persians is an impossibility. Instead, Aristotle advises Alexander to be a liberal ruler; he should not try to change them and he should listen to their concerns. Bacon, however, wants to see a correlation between the manipulation of the elements and ruling well. Bacon's version presents the improvement of customs through the manipulation of the elements as a positive alternative to slaughter. If Alexander can manipulate the elements, then he can rule well; he does not need to resort to slaughter. The fact that Bacon altered Philip's version accentuates just how important the idea of manipulating the elements was to him. He was not willing to have Aristotle use the manipulation of the elements as an example of an absurdly difficult thing to do. Instead, he revised the text so that it adhered to his fundamental idea of improvement through manipulation of the elements.

In the *Epistola de secretis operibus artis et naturae, et de nullitate magiae*, Bacon explicitly associates the art of alchemy with the ability to change people's habits through the manipulation of elements. After having talked about the fact that nature can only produce twenty-four carat gold, he celebrates the fact that art can go even further:

> Sed ars potest augmentare aurum in gradibus puritatis usque in infinitum; similiter argentum complere potest sine fraude. Sed praecedentibus majus est, quod tamen anima rationalis cogi non poterit, eo quod libertate gaudeat arbitrii; potest tamen efficaciter disponi, et excitari, et induci, ut gratis velit suos mores mutare, et affectiones, et voluntates, secundem arbitrium alterius; et non solum singularis persona, sed totus exercitus, et civitas, et totus populus regionis. Et hujusmodi exempla docet Aristoteles in libro *Secretorum* tam de regione, quam de exercitu, et persona singulari. Et in his fere finis naturae et artis.[18]

> Art, however, can augment gold manyfold in degree of purity, and can similarly complete gold without fraud. More remarkable than the preceding is this, that the rational soul cannot be forced but can be effectively disposed, induced, and excited so that it alters its habits, its affections, and its desires according to the will of another. This may be done not only to a single person but to the entire army of a city or to the people of a whole countryside, and

---

[18] Roger Bacon, *Epistola de secretis operibus artis et naturae, et de nullitate magiae*, in *Opera quaedam hactenus I*, p. 538.

Aristotle tells of cases of it in his *Liber Secretorum*, both for an army, for a region, and for a single person.[19]

The ability for art to produce gold that is better than nature's is praised in the same breath as art's ability to change the customs, affections, and wills of a whole society. According to Bacon, a good alchemist can brainwash a nation and thereby improve their customs. Though this may not seem like a good template for reformation, Bacon's theories of improving people's habits through alchemy lay the foundation for later writers to understand alchemy in terms of social improvement. This idea of manipulating elements in order to improve the customs of men had longevity.

In a later section of the *Secretum secretorum*, Aristotle promises to reveal the secrets of alchemy to Alexander. Before he does so, he accentuates the potency of this secret: 'O Alexander, tradere tibi volo secretorum maximum secretum, et divina potencia juvet te ad perficiendum propositum, et ad celandum archanum' (O Alexander, I want to give you the greatest secret of secrets, and may the divine power help you to fulfil your intentions and to hide the secret).[20] When this secret of secrets is finally revealed, it is impenetrably obscure:

> Accipe ergo lapidem animalem, vegetabilem, et mineralem, qui non est lapis, nec habet naturam lapidis. Et iste lapis assimilatur quodammodo lapidibus moncium minerarum, et plantarum, et animalium: Et reperitur in quolibet loco et in quolibet tempore et in quolibet homine: Et convertibilis est in quemlibet colorem: Et in se continet omnia elementa: Et dicitur minor mundus.[21]

> Therefore take the animal, vegetable, and mineral stone, which is not a stone and does not have the properties of a stone: and that stone is similar in a certain way to stones of mineral, plant, and animal mountains: and it is found in whatever place and in whatever time and in whichever man: and can be converted into whatever colour: and all of the elements are contained within it: and it is called the lesser world [the microcosm].

---

[19] Roger Bacon, *Roger Bacon's Letter Concerning the Marvelous Power of Art and of Nature and Concerning the Nullity of Magic*, trans. Tenney L. Davis (Easton, PA: The Chemical Publishing Company, 1923), p. 33.

[20] Bacon, *Secretum*, p. 114.

[21] Ibid., pp. 114–15.

There is nothing definite about the description of the stone; it is a vague and purely suggestive description. The stone can be found everywhere, even within man himself, and yet it somehow resembles the animal, vegetable, and mineral stone. What exactly this mountainous three-in-one stone might be is a mystery. Crucially, however, this stone contains all the elements and is the microcosm. This stone, the 'ovum philosophorum' (philosophers' egg), pseudo-Aristotle goes on to suggest, must be manipulated 'equaliter et proporcionaliter' (equally and proportionally) into four elemental quarters. The elemental consistency of this 'lesser world' gives it the power to transmute. What is particularly interesting about this most secret of secrets is that the philosophers' egg is called the microcosm, a word more readily associated with Platonic conceptions of mankind, the theory of the microcosm positing that mankind was a microcosm of the universe, mirroring its form and functions in miniature.[22] It is this association made between philosophers' egg and mankind that justified Bacon's holistic conception of alchemy.[23]

As William Newman has argued, Bacon's alchemical theories 'were of a highly idiosyncratic nature'.[24] Newman suggests that the more influential conception of alchemy was the 'mercury alone' theory propagated by a thirteenth-century treatise, the *Summa perfectionis*, which circulated under the name of Geber. The 'mercury alone' theory states that there are three ingredients to all metals: 'sulphur et arsenicum videlicet, et argentum vivum' (namely sulfur, arsenic, and quicksilver).[25] However, it is the ability to manipulate and perfect metals 'per solum argentum vivum' (with quicksilver

---

[22] For a discussion of different theories of the microcosm and macrocosm in the Middle Ages, see George Perrigo Conger, *Theories of Macrocosms and Microcosms in the History of Philosophy* (New York: Russell and Russell, 1967). For the medieval conception of the microcosm, see Calcidius, *On Plato's Timaeus*, ed. and trans. John Magee (Cambridge, MA: Harvard University Press, 2016), pp. 46–8. See also, Bernardus Silvestris, *Cosmographia*, ed. Peter Dronke (Leiden: Brill, 1978) and Alain de Lille, *Liber de planctu Naturae*, in *Literary Works*, ed. and trans. Winthrop Wetherbee (Cambridge, MA: Harvard University Press, 2013), p. 70.

[23] Bacon, *Secretum*, p. 117, unnumbered note.

[24] Newman, 'An Overview', p. 317.

[25] Paul of Taranto, *Summa perfectionis*, p. 329, trans. p. 665. See also Newman, 'An Overview', p. 334.

alone) that is the goal of the alchemist who wishes to mimic nature truly.[26] Unlike Bacon's conception of alchemy, this theory does not focus heavily on elemental manipulation and explicitly denies the possibility of alchemical transmutation from organic matter; it is a less holistic conception of alchemy that focuses solely on metallic transmutation. The prevalence of the 'mercury alone' theory in the thirteenth and fourteenth centuries has led Newman to propose that Bacon 'did not have a major impact' on the alchemy of the time.[27] It is true that Bacon's heterodox alchemical ideas were somewhat relegated as the 'mercury alone' theory took centre stage. However, in the mid-fourteenth century, a Franciscan alchemist writing pseudonymously under the name of Ramon Lull wrote an alchemical tract called the *Testamentum*, which echoed some of Bacon's more holistic alchemical views.[28] Pseudo-Lull suggests, for example, that human sin is associated with elemental corruption:[29]

> Ista quattuor elementis sic creata remanserunt pura et clara racione clare partis nature ex qua erant creata usque ad tempus peccati, quod exivit a natura et adhuc est ad tempus indulgencie post peccatum. Sed postquam mortui sunt homines et animalia et nascentia terre desiccata cum destruccione generacionis, veniendo de corrupcione in generacionem et de generacione in corrupcionem, sic quod de corporibus impuris resolutis mutantur elementa in id, quod contagiat et corrumpit elementa, per quem corrupcionem omnis res viva est parve duracionis: quoniam natura non potest facere rem tam perfectam, racione sue materie grosse et corrupte, sicut fecerat in suo principio.[30]

---

[26] Paul of Taranto, *Summa perfectionis*, p. 489, trans. p. 731.

[27] Newman, 'An Overview', p. 335.

[28] For a discussion on the *Testamentum* and its author, see Michela Pereira, 'Introduzione Storica', in pseudo-Lull, *Testamentum*, pp. ix–xxix.

[29] For the legacy of Bacon and his influence on alchemists like pseudo-Lull, see Michela Pereira, 'Alchemy and the Use of the Vernacular Languages in the Late Middle Ages', *Speculum* 74 (1999), p. 344; Faye Marie Getz, 'To Prolong Life and Promote Health: Baconian Alchemy and Pharmacy in the English Learned Tradition', in *Health, Disease and Healing in Medieval Culture*, ed. Sheila Campbell, Bert Hall, and David Klausner (New York: Palgrave Macmillan, 1992), pp. 141–51; Pereira, '*Mater medicinarum*', pp. 26–52.

[30] Pseudo-Lull, *Testamentum*, p. 14.

These four elements thus created, pure and clear because of the clear part of Nature from which they were created, remained as such until the age of sin, which departed from Nature and thus will stay until the time of indulgence, coming after sin. But since then [the age of sin], men and animals have died and things which are born from the earth desiccated with the destruction of generation. Generation must come from corruption and corruption from generation, and so the elements are changed into something that comes from broken impure bodies, which [in turn] contaminates and corrupts the elements. On account of this corruption, all things live for a short time since Nature is not able to make anything as perfectly as she had made at the beginning, because of her gross and corrupted matter.

Pseudo-Lull suggests that since sin entered the world, the elements themselves have become more and more corrupted. The microcosmic conception of the worsening of the world through the worsening of mankind, which was found in Bacon, is turned into something much more explicitly elemental in the *Testamentum*. The sin of man, pseudo-Lull argues, has caused the elements themselves to become an impure putty with which to construct new matter.

  Pseudo-Lull, as Bacon had done, speaks of alchemical knowledge with an imminent apocalypse in mind. Whilst Bacon had accentuated how alchemical knowledge could be used in the battle against the Antichrist, pseudo-Lull explores the idea that man can purify himself through alchemy and can thereby be counted amongst the saved at the Last Judgement:

Sed natura in operando imperfeccionis participat cum magna corrupcione propter materiam elementorum minus purorum, quam quotidie ipsa invenit. […] Et per istam doctrinam, fili, potes intelligere sermonem philosophalem, qui consumabitur in fine mundi, quando Iesus Christus veniet iudicare seculum, cum igne celi comburet omne illud, quod non erit de puritate dictorum elementorum, et omne illud, quod compositum est de malo et impu[e]ro confundetur in abissum; et is, quod ignis inveniet compositum ex virtute pura supra suam sp[h]eram, reponet vivaciter et eternaliter aliter sempiternaliter.[31]

---

[31] Ibid., pp. 14–16.

But Nature, imperfect in her works, participates in great corruption because of the matter of elements, which each day she finds less pure […] And from this lesson, son, you may understand the philosophical speech, which will be consummated at the end of the world, when Jesus Christ will come to judge the world. With heavenly fire, he will burn everything which is not made of the purity of the said elements; all those who are comprised of evil and of impurity will be confounded to the abyss. Those whom the fire finds to be composed of pure virtue above its sphere, he will vigorously and eternally and infinitely restore.

Pseudo-Lull reiterates the fact that Nature continuously finds the elements less pure. He then conflates elemental impurity with human sin. If an individual does not work against the generational tide of corruption, then he will be confounded to the abyss. However, if he does works against the tide, he will be exalted in eternal life. Goodness and the alchemical desire to make the world better become two remedies to the same problem. Pseudo-Lull suggest that it is imperative for mankind to reverse the corruption of Nature.

John Gower's Moral Alchemy

John Gower (c. 1330–1408) shared with Bacon and pseudo-Ramon Lull a view that the world was degenerating. Having lived through the plague and, what seems to be more appalling to him, the Peasants' Revolt, he believed that he was living in the End Times.[32] Whilst Gower was not an alchemist, he was, as James Simpson has

---

[32] For extensive discussions of Gower's apocalypticism, disdain for his own generation, and his fascination with Nebuchadnezzar's Dream, see Russell A. Peck, 'John Gower and the Book of Daniel', in *John Gower: Recent Readings*, ed. R. F. Yeager (Kalamazoo, MI: Medieval Institute, 1989), pp. 159–87; Lynn Arner, 'History Lessons from the End of Time: Gower and the English Rising of 1381', *Clio* 31 (2002), pp. 237–55; Elliot Kendall, 'Saving History: Gower's Apocalyptic and the New Arion', in *John Gower, Trilingual Poet: Language, Translation, and Tradition*, ed. Elisabeth Dutton with John Hines, and R. F. Yeager (Cambridge: D. S. Brewer, 2010), pp. 46–58; Matthew W. Irvin, *The Poetic Voices of John Gower: Politics and Personae in the 'Confessio Amantis'* (Cambridge: D. S. Brewer, 2014), pp. 46–73.

illustrated, interested in *scientia* (that is all bodies of knowledge) and 'enformacioun' (the improving of individuals through knowledge).[33] I posit that Gower's conception of alchemy was influenced by the sort of alchemy that Bacon envisaged and that pseudo-Lull developed, an image of alchemy that is rooted in ideas of the microcosm/ macrocosm and inextricably linked to social improvement. Critics from the beginning of the twentieth century have acknowledged Gower's debt to the *Secretum secretorum* for his theory of the microcosm.[34] More recently, Gower's portrayal of alchemy in the *Confessio Amantis* has been discussed as the perfect exemplum for his vision of societal amelioration.[35] My study of Gower's alchemy does not stray far from the conclusions of Stephanie Batkie and Clare Fletcher, who agree that, like the production of the *Confessio* itself, the productive labour of alchemy could bring about a better world if only there were those to understand it properly. What follows is a fuller contextualisation of this vision. Gower's alchemy was a very specific alchemy, one that was particularly concerned with elemental manipulation. In all of Gower's major poems, the *Vox Clamantis*, *Le Mirour de l'Omme*, and the *Confessio Amantis*, he correlates mankind's sin

---

[33] James Simpson, *Sciences and the Self in Medieval Poetry: Alain of Lille's 'Anticlaudianus' and John Gower's 'Confessio Amantis'* (Cambridge: Cambridge University Press, 1995), pp. 1–9.

[34] George L. Hamilton, 'Some Sources of the Seventh Book of Gower's *Confessio Amantis*', *Modern Philology* 9 (1912), pp. 323–46; A. H. Gilbert, 'Notes on the Influence of the *Secretum Secretorum*', *Speculum* 3 (1928), pp. 84–93; George Gillespie Fox, *The Mediaeval Sciences in the Works of John Gower* (Princeton, NJ: Princeton University Press, 1931), pp. 35–51; Elizabeth Porter, 'Gower's Ethical Microcosm and Political Macrocosm', in *Gower's 'Confessio Amantis': Responses and Reassessments*, ed. A. J. Minnis (Cambridge: D. S. Brewer, 1983), pp. 135–62; Ann W. Astell, *Chaucer and the Universe of Learning* (Ithaca, NY: Cornell University Press, 1996), pp. 76–83.

[35] Stephanie L. Batkie, '"Of the parfite medicine": Merita Perpetuata in Gower's Vernacular Alchemy', in *John Gower, Trilingual Poet*, pp. 157–68; Steele Nowlin, 'Gower's Chronicles of Invention: Historiography and Productive Poetry in Book Four of the *Confessio Amantis*', *Modern Philology* 110 (2012), pp. 188–201; Robert Epstein, 'Dismal Science: Chaucer and Gower on Alchemy and Economy', *Studies in the Age of Chaucer* 36 (2014), pp. 209–48; Clare Fletcher, '"The science of himself is trewe": Alchemy in John Gower's *Confessio Amantis*', *South Atlantic Review* 79 (2014), pp. 118–31.

with a physical and elemental corruption of the universe. Despite this universal degeneration, he also presents an alchemical hope that this process can be reversed through the actions of mankind.

An image that recurs both verbally and pictorially throughout Gower's oeuvre is that of the statue in Nebuchadnezzar's dream.[36] Gower retells the story of Nebuchadnezzar's dream in both *Vox Clamantis* and the *Confessio Amantis* and it is likely that he also told the story in the missing folio of the only surviving manuscript of his first poem, *Le Mirour de l'Omme*.[37] The story, from Daniel 2, concerns a dream that Nebuchadnezzar, the Babylonian king, asks Daniel to interpret for him. In the dream, Nebuchadnezzar sees a huge statue with a head made of gold, a chest of silver, a stomach of brass, legs of steel, and feet of steel and clay. This statue is then smashed by a falling stone. Daniel interprets the dream as prophetic: the golden head is the reign of Nebuchadnezzar, whilst the lesser metals that comprise the lower parts of the body signify the reigns of those who will succeed him. Each succeeding generation will be worse than the last, according to Daniel. The separated feet of steel and clay signify a divided kingdom, which will be destroyed by an external force, as signified by the falling stone. Due to his ability to interpret the dream, Daniel is exalted in the court of Nebuchadnezzar.

In Gower's eyes, Daniel's prophecy had come true. He believed that he was living in the divided age of iron and clay, just before the apocalyptic stone would come to destroy everything: the golden

---

[36] Jeremy Griffiths lists twenty-three of a total fifty-nine *Confessio* manuscripts that contain a miniature (or space for a miniature) of the statue in Nebuchadnezzar's dream. Jeremy Griffiths, '*Confessio Amantis*: The Poem and its Pictures', in *Gower's 'Confessio Amantis': Responses and Reassessments*, p. 177. For discussions on the prominence of Nebuchadnezzar's dream in broader medieval literature, see Anna Zayaruznaya, *The Monstrous New Art: Divided Forms in the Late Medieval Motet* (Cambridge: Cambridge University Press, 2015), pp. 142–72; James M. Dean, *The World Grown Old in Later Medieval Literature* (Cambridge, MA: Medieval Academy of America, 1997), pp. 233–70.

[37] Cambridge, University Library, MS Additional 3035, the only surviving manuscript of the *Mirour* is missing folio 120. Before the missing folio, which contains 192 lines, Gower speaks of the degradation of mankind. After the missing folio, Gower is speaking about Nebuchadnezzar. It is likely that Gower spoke of Nebuchadnezzar's dream at this point.

empire of the Babylonians had given way to the age of silver under Darius; the age of the brass stomach had come under Alexander the Great and the age of the divergent steel legs ranged from the reign of Julius Caesar to Charlemagne. Everyone born since the reign of Charlemagne, he argues, was living in the age of steel and clay feet:

> Upon the feet of Erthe and Stiel
> So stant this world now everydiel
> Departed; which began riht tho,
> Whan Rome was divided so:
> And that is forto rewe sore,
> For alway siththe more and more
> The world empeireth every day. (Prologue, lines 827–33)

The present day is base and divided, this division being, for Gower, the most detestable symptom of society's malady:

> And why the worschipe is aweie,
> If that a man the sothe seie,
> The cause hath ben divisioun,
> Which moder of confusioun
> Is wher sche cometh overal,
> Noght only of the temporal
> Bot of the spiral also. (Prologue, lines 849–55)

Division, Gower says, had entered into both the temporal and spiritual world, causing mankind and the world to degenerate. His distinction between temporal and spiritual discord suggests that there is a deep rot that has entered into human souls. Division exists not only between people, but also within people; spiritual division, he argues, has led to people serving both 'God and the world' (Prologue, line 862). He claims that the 'holy cherche' is 'medled' with 'erthly thing' (Prologue, lines 858–9). Elements of society and elements of the human soul are separated, and such separation, according to Gower, is noxious.

Whilst the metallically hierarchical statue of Nebuchadnezzar's dream is not explicitly alchemical, it does show that Gower shares with Bacon and pseudo-Lull the concern for an ailing world that needs remedy. Within the metaphor of the statue, any act of resolving society's ills would imply moving from a base metal back towards gold. In the *Vox Clamantis*, written before the *Confessio*, Nebuchadnezzar's dream serves as the poem's climactic condemnation of society's many

ills. Explaining the significance of the dream, Gower delves into the divisions and corruptions that have caused mankind to degenerate from noble gold to base iron and clay. He speaks of how love has been lost, temptation has risen alongside hatred, servants have become masters, and of how even the four elements are divided:

> Hec quoque nec perstant que nos elementa vocamus,
> Immo gerunt varias diuaricata vices:
> Corpora vertuntur, nec quod fuimus ve sumus nos
> Cras erimus, set idem se neque tempus habet:
> Nil equidem durare potest forma suc eadem,
> Mutari subito quin magis omne liquet.[38]

> Those things which we call the elements also do not endure; rather, the different elements suffer various changes. Bodies change, and we shall not be tomorrow what we are or have been; no age keeps itself the same.[39]

This changeability of the elements is included in a list of that which causes corruption and sin.[40] Gower, as had pseudo-Lull, suggests that human sin is bound up with the mutability of the sublunary world. Division and change are seen as negative symptoms of the ills of both human society and the natural world. Indeed, Gower compares the degeneration of mankind to the deterioration of metals and rocks: 'Conteritur ferrum, scilices tenuantur ab vsu: / Numquid homo fragilis rumpitur ipse magis?' (Iron wears away and flinty rocks diminish through use; is not frail mankind broken to pieces even more?; 7, lines 483–4, trans. p. 264). This metaphor links the deterioration of matter to the deterioration of mankind. However, as the above quotation concerning the changeability of the elements suggests, the links that Gower makes between the physical world

[38] John Gower, *Vox Clamantis*, in *The Complete Works of John Gower: The Latin Works*, ed. G. C. Macaulay (Oxford: Clarendon Press, 1902), book 7, lines 473–8. All further references will be to this edition.

[39] John Gower, *The Voice of One Crying, in The Major Latin Works of John Gower*, ed. and trans. Eric W. Stockton (Seattle: University of Washington Press, 1962), p. 164. All further translations will be from this edition.

[40] It is important to note the Ovidian heritage here. See Ovid, *Metamorphoses*, ed. and trans. Frank Justus Miller, rev. G. P. Goold, 2 vols, Loeb Classical Library, 42, 43 (rev. edn, Cambridge, MA: Harvard University Press, 1977–1984; first pub. 1916), book 1, lines 1–150.

and mankind go beyond metaphor. The *Vox* culminates in an expression of mutual degeneration of mankind and the material world, the one influencing the other and vice versa.

Towards the end of the *Vox Clamantis*, Gower directly addresses Adam and Eve. He explains that God had laid all the animals at mankind's feet: sheep, oxen, fowls, and fish were given to man to follow his bidding. The very next sentence extends mankind's mastery to the elements: 'En, elementa tibi, sol, aer, sidera, tellus, / Diuitis vnda maris, cetera queque fauent' (Lo, the elements are propitious to you [Adam and Eve] – the sun, the air, the skies, the earth, the wave of the teeming sea, and every other thing; 7, lines 571–2, trans. p. 266). Gower suggests that the elements, like the animals, should be under the control of mankind. Indeed, all of creation should be subject to mankind: 'Omnia subiecta tibi sunt, tibi cuncta ministrant, / Omnia respondent obsequiumque parant' (All things are subject to you, all things serve you, all things answer and render obedience to you; 7, lines 579–80, trans. p. 266). However, since the time of Adam of Eve, mankind has lost control of the world. Rather than beneficially shaping the elements with his will, mankind has aided the degeneration of the elements through his sin. Gower moves straight from this discussion of how the elements were given to the governance of Adam and Eve to a discussion of man as a microcosm of the physical and spiritual world. The immediate surroundings of a sinful man suffer through their proximity to his sin:

> Est homo qui mundus de iure suo sibi mundum
> Subdit, et in melius dirigit inde status:
> Si tamen inmundus est, que sunt singula mundi
> Ledit, et in peius omne refundit opus:
> Vt vult ipse suum proprio regit ordine mundum,
> Si bonus ipse, bonum, si malus ipse, malum.
> Qui minor est mundus, fert mundo maxima dampna,
> Ex inmundiciis si cadat ipse reus:
> Qui minor est mundus, si non inmunda recidat,
> Cuncta suo mundi crimine lesa grauat:
> Qui minor est mundus homo, si colat omnipotentem,
> Rebus in humanis singula munda parit:
> Qui minor est mundus, si iura dei meditetur,
> Grande sibi regnum possidet ipse poli. (7, lines 647–60)

> The man who is pure in his own right subjects the world to him-
> self, and accordingly guides its circumstances for the better. If he
> is impure, however, he is injurious to everything which pertains
> to the world, and redirects its whole fabric for the worse. He rules
> his world by his own command as he wishes: If he is good, it is
> good; if he is evil, it is evil. One who is a microcosm brings the
> greatest misfortunes upon the world, if he falls because guilty of
> impurities. If one who is a microcosm does not check his impu-
> rities, he weighs heavily upon everything in the world, which is
> impaired by his wickedness. If one who is a microcosm worships
> the Omnipotent, he is the source of everything pure in human
> affairs. If one who is a microcosm meditates upon the laws of
> God, he will possess the great kingdom of heaven for himself.
> (pp. 267–8)

A good person, Gower states, takes control of the world around
him. He subjects the physical world to his command and helps to
make it better. However, if he is 'inmundus' (impure) then he makes
things around him less pure. Gower speaks of social problems in
very physical terms. There is some sort of emanation of either good
or evil that comes from an individual and affects his surroundings.
The repetition of the phrase 'qui minor est mundus' (one who is a
microcosm) accentuates the fact that this is an underlying principle
of what Gower understands to be the microcosm.[41] The microcosm,
due to his affinity to the macrocosm (the physical world/society),
affects it either for better or for worse. A fundamental aspect of this
conception of the microcosm is that the microcosm has choice. Man,
as microcosm, can either leave his impurities unchecked, or he can
direct his will towards God and towards the good so that he can
change the world for the better.

   As might be expected, Gower suggests that 'nunc tamen' (nowa-
days however) most people are governed by fleshly desires and thus
harm the world through their microcosmic nature. Addressing one
of these people, whom he calls 'stulcior o stulto' (stupider than a fool;
7, line 683, trans. p. 269), he recalls the statue of Nebuchadnezzar to
suggest that by putting aside heaven for the delights of the world,
he exchanges gold for clay: 'Postponens aurum queris habere lutum'

---

41 The repetition also accentuates the pun on *mundus* (pure) and *mundus*
    (world).

(putting aside gold, you seek to possess clay; 7, line 684, trans. p. 269). In saying this, Gower implies that the historical degeneration of both mankind and the physical world, as symbolised by a movement from gold to clay, can be reversed. The stupid man can choose to seek either gold or clay. Gower makes explicit the idea that living well is synonymous with seeking gold. There is an echo here of Bacon's belief in mankind's ability to manipulate the elements of a region in order to improve a society's morals and customs. Bacon had suggested that man hands on corruption to man, but that this corruption can be reversed by the works of an alchemist. If an alchemist could alter the elements in a certain way, then he, like Alexander, would be able to improve the morals of a region. Gower similarly expresses a degeneration of both physical and moral matter. He also expresses the possibility that this degeneration can be reversed by man working as a microcosm.[42] He uses language borrowed from natural philosophy to explain how the inner workings of mankind affect both society and the external world.

In all of Gower's major poems, he addresses the relationship between the microcosmic world of man and the macrocosmic world of the elements. In the *Mirour*, his first major poem, he states that Aristotle called man the 'meindre monde' (lesser world/microcosm):

> Car tout le monde en son endroit
> L'omme en nature de son droit
> Contient; de ce nous sumes certz,
> Qant dieus l'umaine char creoit,
> Des elementz part y mettoit,
> N'est qui puet dire le revers.[43]

---

[42] Elizabeth Porter suggests that Gower's understanding of the microcosm derives from his reading of both the *Secretum secretorum* and Giles de Rome's *De regimine principum*. Whilst it is unclear which edition of the *Secretum* Gower had read, it is worth considering that he may have had access to one of the many manuscripts that circulated with Bacon's extensive notes. Porter, 'Ethical Microcosm', p. 136. Amanda Walling argues that little of the *Confessio* is based directly on the *Secretum* and that Gower draws more explicitly from Giles de Rome and Brunetto Latini's *Livres dou tresor*. Amanda Walling, 'The Authority of Impersonation: Gower's *Confessio Amantis* and the *Secretum Secretorum*', *Viator* 47 (2016), pp. 343–64.

[43] John Gower, *Le Mirour de l'Omme*, in *The Complete Works of John Gower: The French Works*, ed. G. C. Macaulay (Oxford: Clarendon Press, 1899),

> For man in his nature contains the entire world. Of this we were
> sure when God created human flesh, for He put in parts of all the
> elements. No one can say contrary.[44]

Here, in the *Mirour*, a poem that also delineates the sins of his age,
Gower accentuates the fact that mankind contains the four ele-
ments. If man transgresses against the will of God, then he undoes
the physical fabric that he consists in: 'Pour ce si l'omme a dieu fors-
fait, / Par son pecché trestout desfait / Et terre et eaue et mer et fieu'
(Therefore if man transgresses against God, he undoes everything
by his sin / earth, and water, and sea, and fire; lines 26953–5, trans.
p. 353). However, if man obeys the will of God then he will have a
reward 'si tresfin / Dont nuls porroit conter le fin' (so great that no
one can tell the end of it; line 26970–1, trans. p. 353), he will have
'tout ce q'il desire' (all that he desires; line 26986, trans. p. 353), and
he will seemingly be invincible:

> Si l'omme a luy soit obeissant,
> Tout que le siecle ad en baillie
> A graunt proufit luy multeplie
> Sanz nul damage survenant:
> Car de l'espeie le trenchant,
> Ne pestilence en occiant
> Lors n'entrera deinz sa partie. (lines 26991–7)

> If man is obedient to Him, all that the world has to offer will
> multiply for his great profit without any harm attached; for nei-
> ther sharp edge of the sword nor any killing pestilence shall come
> to him. (pp. 353–4)

Gower suggests that if mankind follows God's will, then he will have
control over the 'siecle', the age in which he lives. He also suggests
that he will be impervious to any physical harm. This discussion
comes immediately after a discussion of mankind having been made
from the elements. Gower contrasts two temporal consequences of
man's actions: either mankind can sin and thus the elements will be

---

    lines 26933–40. All further references will be to this edition.
[44] John Gower, *Le Mirour de l'Omme*, ed. and trans. William Burton Wil-
    son (East Lansing, MI: East Lansing Colleagues Press, 1992), p. 353. All
    translations of the *Mirour* will be from this edition.

undone, or mankind can follow God's will and thus have dominion over the world and protection from harm.

The idea of multiplying something 'a graunt proufit' has definite alchemical connotations. Both Bacon and pseudo-Lull had spoken of the alchemical benefit of multiplying the species or multiplying the elixir.[45] Indeed, whenever Gower uses the term 'multiply' or 'multiplication' in the whole of the *Confessio Amantis*, he is either referring to mathematics (7, line 159), procreation (8, line 29 and 8, line 86), or alchemy (line 2573). The context for the word 'multeplie' in the *Mirour* is a discussion of mankind's mastery over the four elements and animals. With this in mind, it would seem that his description of mankind's ability to multiply the 'siecle' for his own benefit refers both to the ability to breed animals and the ability to perform some form of alchemical operation. If man is disobedient to God, Gower later states, the physical world will be disobedient towards him:

> Mais oultre ce di quoy serra,
> Si l'omme ne se guardera
> Pour faire a dieu droite obeissance.
> Je dis que malement l'esta,
> Car sicomme vous ay dit pieça,
> Le siecle ove toute s'alliance
> Luy serront en desobeissance,
> La terre ert sanz fructefiance,
> Et l'air de soy corrumpera,
> Et l'eaue en tolt sa sustienance. (lines 27133–42)

> But say what shall happen if man is not careful to render true obedience to God. I say that it shall go ill, for (as I told you before), the world with all its family shall be disobedient to him, the earth shall be without fruit, the air shall become corrupt, and the water shall take away its sustenance. (p. 356)

Mankind can control the elements if he is obedient towards God. If he disobeys God, the elements (earth, air, and water in this passage) will not subject themselves to him. This is a moral imagining

---

[45] 'Multiplicatio' is a key term for pseudo-Ramon Lull. He uses the term over thirty-two times throughout the *Testamentum* ('Index' to Pereira's *Testamentum*, p. 614). It signifies the growth in quantity of a certain substance (Pseudo-Lull, *Testamentum*, pp. 70–7 and p. 404).

of a Baconian alchemical worldview. According to Gower, mankind corrupted the elements through his sin. He believed that the world in which he lived, corrupted both morally and physically, was in dire need of someone to reverse the process of degeneration that had been ongoing since the age of gold.

The structure of the *Confessio* is built around a dialogue between a lover called Amans, who is the text's narrator, and his confessor, Genius. At the beginning of the poem, Amans confesses his troubles in love to Genius. Genius then spends the rest of the poem telling Amans tales of love followed by morals of varying aptness. Most of the poem's eight books are themed around one of the seven deadly sins. In the fourth book of the *Confessio*, devoted to the sin of Sloth, Genius spends 175 lines expounding the merits and shortcomings of alchemy. This alchemical section is part of Genius's lesson on the greatness of human labour, discovery, and invention. As a way to counter the laziness of Amans, Genius lists the great intellectual labourers of history.[46] After this list comes the extended discussion of alchemy. In the *Mirour de l'Omme*, Gower reserves a section of his discussion of 'Triche' (Fraud) for deceptive alchemists (line 25513), whom he attacks alongside deceitful goldsmiths, jewellers, physicians, and apothecaries. In the *Confessio*, it is the ignorant rather than the deceitful alchemist who receives scorn:

[46] The Latin gloss accompanying this section reads: 'Hic loquitur contra ociosos quoscumque, et maxime contra istos, qui excellentis prudencie ingenium habentes absque fructu operum torpescunt. Et ponit exemplum de diligencia predecessorum, qui ad tocius humani generis doctrinam et auxilium suis continuis laboribus et studiis, gracia mediante diuina, artes et sciencias primitus inuenerunt.' (Here he speaks against idle men of whatever sort, and particularly against those who, possessing an intellect of excellent power, grow languid without gaining the fruit of any labor. And he presents an instructive example concerning the diligence of those who have come before, who originally discovered the arts and sciences for the wisdom and assistance of the entire human race, by their continual labors and inquiries, and with the assistance of divine grace; trans. Andrew Galloway in John Gower, *Confessio Amantis*, ed. Russell A. Peck (Kalamazoo, MI: Medieval Institute Publications, 2013), vol. 2, book 4, note to line 2377, http://d.lib.rochester.edu/teams/text/peck-gower-confessio-amantis-book-4 [accessed 28 July 2021]).

Thei setten upon thilke dede,
And spille more than thei spede;
For allewey thei finde a lette,
Which bringeth in poverte and dette
To hem that riche were afore.
The lost is had, the lucre is lore,
To gete a pound thei spenden fyve;
I not hou such a craft schal thryve
In the manere as it is used. (4, lines 2585–92)

In this particular section, alchemists are portrayed as fools who ruin themselves by wasting money on something that will never pay dividends. In the final two lines of the above quotation, Genius wonders how the 'craft' could possibly survive 'in the manere as it is used'. He then goes on to state that, despite the fact that alchemy is abused by ignorant wits, 'the science of himself is trewe' (4, line 2598).[47] In the *Mirour*, Gower had argued that, whilst fraudulent alchemists existed in the age in which he lived, those of former ages were noble (lines 25801–12). Similarly, Genius in the *Confessio* states that there is nothing wrong with alchemy itself. It is the degenerated wits of his age that abuse the 'trewe' science of alchemy with their ignorance and fraudulence.

    The greater part of the alchemical section of the *Confessio* is taken up with a description of alchemical lore. After having explained how 'philosophres' first mined and purified metals, Genius explains how they then discovered alchemy:

And also with gret diligence
Thei founden thilke experience,
Which cleped is alconomie,
Wherof the selver multeplie
Thei made and ek the gold also. (4, lines 2457–61)

As Genius renders the word 'experience' synonymous with 'alconomie', he recalls Bacon's 'scientia experimentalis'.[48] However, the precise definition of alchemy that Genius provides, that of multiplying silver and gold, is far narrower than that provided by either Bacon

---

[47] Gower often uses 'himself' to mean 'itself'. See for example 'For every lond himself deceyveth' (Prologue, line 177).

[48] See Fox, *Medieval Sciences*, p. 115.

or pseudo-Lull. Despite the fact that Gower seems to acknowledge Bacon's association between alchemy and 'scientia experimentalis', alchemy is at this point concerned only with increasing the weight of silver or gold. Such a basic material desire is far removed from any grand aspirations for improving the world. Genius then follows the above quotation by prosaically listing the seven 'bodies' (metals) and the four 'spiritz' (volatile alchemical substances) of alchemy.[49] Each metal corresponds to a planet and can be called by that planet's name: gold is the sun; silver is the moon; iron is Mars, lead is Saturn, brass is Jupiter;[50] copper is Venus; and quicksilver is Mercury. Apart from attributing Jupiter to brass rather than to tin, this is standard alchemical nomenclature. The four spirits are ammonium salts, sulphur, arsenic, and mercury (which is also a body). These, Genius suggests, are the fundamental ingredients of alchemy. There is nothing spectacular or particularly interesting about Gower's presentation of alchemy at this point.

Gold and silver, Genius states, are the 'tuo principal extremites' (4, line 2489) of all metals, to which all other metals 'ben acordant' (4, line 2491). In this context, the word 'extremites' incorporates all definitions as given by the *Middle English Dictionary*: 'The terminal point or part, the end'; 'Things diametrically opposed to each other or situated at the very ends of a scale'; and 'The highest degree (of a quality)'. According to certain alchemists, gold and silver are the terminal points of all metals in that they are the only perfect and fully formed metals.[51] All other metals were seen as impure versions of gold or silver. It is the impurity and corruption of the world that

---

[49] A similar list of 'bodies' and 'spirits' can be found in many alchemical texts. See J. R. Partington, 'The Chemistry of Rāzī', *Ambix* 1 (1938), p. 192; Moureau, '*Elixir atque fermentum*', pp. 286–8.

[50] Usually Jupiter is twinned with tin; brass, being an alloy, does not tend to feature in the alchemical list of metals. Idiosyncratically, pseudo-Avicenna includes brass in his list of 'bodies' in his *De anima in arte alchemiae*. Sébastien Moureau, 'Some Considerations Concerning the Alchemy of the *De anima in arte alchemiae* of Pseudo-Avicenna', *Ambix* 56 (2009), p. 54.

[51] Pseudo-Lull, who throughout the *Testamentum* speaks of the 'extrema' (extremities) of matter and metals, describes how Nature 'appetit perfectionem' (strives for perfection) and thus slowly turns base metals into either gold or silver in the bowels of the earth. Pseudo-Lull, *Testamentum*, pp. 14–18.

has led to a proliferation of base metals. All metals 'ben acordant' with gold and silver in that all metals can become either gold or silver (depending on which metal they are).[52] In this way, gold and silver are on opposite ends of a scale with all the other metals in between.[53] Finally, gold and silver are, of course, the highest quality of metals. From this moment, the alchemy of the *Confessio* becomes more unique. Genius states that the alchemist's job is to take away 'the rust' of metals so that the 'liknesse' of gold and silver can be impressed upon them. This does not sound like metallic transmutation, but rather like some sort of gilding or tainting. He suggests that metals are made to look like gold or silver rather than truly becoming gold and silver. However, Genius ensures Amans that 'this craft is wroght be weie of kinde, / So that ther is no fallas inne' (4, lines 2508–9). Genius is forced to address the tension between his professed endorsement of metallic transmutation and his expression of a more superficial act of counterfeiting. He justifies the art of alchemy by saying that it is nature's craft. He then provides another fairly standard list of various specific alchemical procedures.[54] Gower was more interested in what alchemy symbolised than the minutiae of its doctrine. His mention of the alchemist deoxidising metals (ridding metals of rust) accentuates this; Gower was interested in how alchemists could rid the world of impurities and imprint something more noble onto raw materials. I argue that this conception of alchemy is wholly concurrent with Gower's ideas concerning man as the microcosm.

---

[52] This idea can be found in the *Semita recta*, otherwise known as the *Libellus de alchimia*, which was ascribed to Albertus Magnus. Pseudo-Albertus Magnus, *Libellus de alchimia: Ascribed to Albertus Magnus*, ed. and trans. Virginia Heines (Berkeley, CA: University of California Press, 1958), pp. 7–9.

[53] The *Summa perfectionis* presents a similar spectrum of metals. Tin, the text argues, is 'affinis soli videlicet et lune, lune magis soli vero minus' (related to sol (gold) and luna (silver), but more to luna and less to sol; pp. 344–5, trans. p. 675). Copper, on the other hand, 'est medium solis et lune' (is midway between sol and luna; p. 346, trans. p. 676). With thanks to Jennifer Rampling for advice here.

[54] Distillation, congelation, solution, 'descencion', sublimation, calcination, and fixation.

One of the main features of Gower's alchemy is his interest in three philosophers' stones rather than one. As Jennifer Rampling has noted, this detail suggests that Gower was very much engaging with the pseudo-Lullian tradition that would go on to define English alchemy in the fifteenth century and beyond.[55] In the late fourteenth century the dominant alchemical theory was that of the *Summa perfectionis*, which posited that there was one philosophers' stone, a sort of mercury whose sole function was metallic transmutation.[56] Roger Bacon and pseudo-Lull discuss the benefits that can be gained from performing alchemical experiments on animal, vegetable, or mineral matter.[57] Whereas the earlier thinkers present

[55] Rampling, *Experimental Fire*, p. 14.

[56] Although the stone is metaphorically referred to as a 'medicine' in the *Summa*, it concerns only the manipulation of metals: 'Ex diversitate igitur reiterationis operis super lapidem in gradibus suis resultat multiplicationis bonitatis alterationis diversitas, ut ex medicinis quedam sui duplum […] solificum et verum perfectionis lunificum transmutet corpus' (Hence from the diversity of repetition of the work upon the stone in its degrees, there results a diversity of the multiplication of the goodness of its alteration, so that the medicine transmutes twice as much as itself into a true solar and lunar body of perfection; Paul of Taranto, *Summa perfectionis*, pp. 629–30, trans. p. 784). Petrus Bonus of Ferrara's *Pretiosa margarita novella* (1330) actively refutes any vegetable or animal stones. See Petrus Bonus of Ferrara, *Pretiosa margarita novella*, in *Bibliotheca chemica curiosa*, ed. Jean-Jacques Manget (Geneva: Chouet, 1702) vol. 2, 26b–27a. Pseudo-Arnold of Villanova, in the influential *Rosarius philosophorum*, quotes pseudo-Geber when he states that the mercury is the only substance upon which an alchemist ought to work: pseudo-Arnold of Villanova, *Rosarius philosophorum*, in Calvet (ed.), *Les oeuvres alchimiques*, pp. 286–90.

[57] Pseudo-Lull describes how the philosophers' stone is similar to the animal, vegetable, and mineral nature: 'noster lapis assimilatur in opere ad opus nature animalis, vegetabilis et mineralis' (our stone is similar in function to the work of animal, vegetable, and mineral nature; pseudo-Lull, *Testamentum*, p. 254). Bacon's holistic conception of alchemy argued that the philosophers' stone could be extracted from mineral, vegetable, or animal matter: 'Et hoc potest esse res mineralis, ut sulphur et arsenicum, set melior est res vegetabilis ut fructus et partes arborum et herbarum, optime vero sunt res animales ut sanguis ovum et capilli' (And this [stone] can be a mineral thing, like sulphur and arsenic; but it

the animal, vegetable and mineral stone as a sort of three-in-one –
an alchemical trinity, so to speak – Gower distinctly and clearly
separates the stones and their properties.[58] According to Genius,
the '*lapis vegetabilis*' has the power 'mannes hele for to serve, / As
forto kepe and to preserve / The bodi fro siknesses alle, / Til deth
of kinde upon him falle' (4, lines 2537–40). The vegetable stone is
a life-preserving elixir that can maintain human life to its natural
end. In a rather unique understanding of alchemical lore, Genius
describes the '*lapis animalis*' as a similarly restorative stone that
maintains the vigour of both the five senses and the 'wittes fyve' (4,
line 2549). These stones, which improve or maintain the internal
qualities of man, can be used in the fight against internal corrup-
tion, providing remedies for the ailments of the society that Gower
consistently bewails.

   Despite the fact that these healing stones suggest a way to reverse
at least a part of society's degeneration, Genius does not spend a lot
of time describing the vegetable and the animal stones. Much more
time is devoted to the third stone:

> The thridde ston in special
> Be name is cleped Minerall,
> Which the metalls of every Mine
> Attempreth, til that thei ben fyne,
> And pureth hem be such a weie,
> That al the vice goth aweie
> Of rust, of stink, and of hardnesse:
> And whan thei ben of such clennesse,
> This Mineral, so as I finde,
> Transformeth al the ferste kynde
> And makth hem able to conceive
> Thurgh his vertu, and to receive
> Bothe in substance and in figure
> Of gold and selver the nature. (4, lines 2551–64)

---

is better as a vegetable thing, like fruits or parts of trees and herbs; but
best of all are animal things, like blood, eggs, and hair; Bacon, *Secretum*,
p. 117, n. 5).

58 Stephanie Batkie has acknowledged that this taxonomising of the three
philosophers' stones is unique to Gower. Batkie, 'Parfite medicine', p.
165.

The mineral stone purifies metals and then stamps its impression onto the purified metals. This definition of alchemy goes beyond what had seemed superficial earlier in the alchemical passage. Rather than simply ridding metals of 'rust' and then imprinting the 'liknesse' of gold and silver onto the deoxidised metals, the mineral stone rids a metal of all of its 'vice' (including rust, 'stink', and hardness), transforms the metal to its 'ferste kynde', and then makes that metal able to 'conceive' through its 'vertu', whereby it becomes gold or silver in both 'substance and in figure'. The reference to the 'ferste kynde' recalls the idea that metals would have to be reduced to their *prima materia* if transmutation were to take place.[59] Genius' register evokes morality. Although terms synonymous with 'vice' and 'virtue' are found in alchemical texts,[60] it is hard to separate this discussion of improving the nature of metals from Gower's desire to improve his society.[61] The mineral stone removes vice; the stone then imbues the substance and the form of noble metals onto that which had been full of vice. By separating the power of the stones, Gower allows the mineral stone to carry more metaphorical weight.[62] The vegetable stone and the animal stone improve the microcosm of mankind by maintaining his physical and mental health. The mineral stone heals the macrocosm; it heals both the external physical world and macrocosmic society. It has the power to reconstruct the statue of Nebuchadnezzar by turning its baser materials back into gold.

---

[59] Twelfth- and thirteenth-century debates surrounding the legitimacy of alchemy often centred around the art's ability or lack thereof to reduce elements to their prime matter. See Newman, *Promethean Ambitions*, pp. 35–40.

[60] Alchemists use words like 'corruptio' (corruption) and 'perfecta' (perfected) to speak of matter (pseudo-Lull, *Testamentum*, p. 6 and p. 14). In his notes to the *Secretum*, Bacon describes how alchemy changes things from baser to more noble matter: 'mutatur a qualitatibus vilioribus ad nobiliores' (it is changed from baser to more noble qualities; Bacon, *Secretum*, p. 117, n. 1).

[61] See Fletcher, 'Science of himself', p. 120.

[62] The *Secretum* also focuses on the stone's ability to transmute. It is only in Bacon's notes that the *Secretum* comes to contain iatrochemical alchemy. Bacon, *Secretum*, p. 115.

 For Gower, alchemy brings profit, increase, stability, and perfection:

> This stone hath pouer to profite.
> It makth multiplicacioun
> Of gold, and the fixacioun
> It causeth, and of his habit
> He doth the werk to be parfit
> Of thilke elixer which men calle
> Alconomie, as is befalle
> To hem that whilom weren wise. (4, lines 2572–9)

There is a slight verbal echo here of the section of the *Mirour* in which Gower had stated that all those who obey God would have the world 'a graunt proufit luy multeplie' (line 26993). In both texts, there is a sense that the physical world can bring profit through multiplication to a man who does things correctly. Gower's focus on the process of 'fixacioun' in this description of the greatness of alchemy is notable. For pseudo-Geber, pseudo-Arnold of Villanova, and pseudo-Ramon Lull (the three most influential alchemists in fourteenth-century England), 'fixation' was simply one part of a larger process. Pseudo-Geber (Paul of Taranto) claims that the 'fixed' stone must be 'made volatile' and then the volatile made fixed and so on until perfection is reached.[63] Both pseudo-Arnold and pseudo-Lull present a similar concept of fixation, which is essentially a method of solidification.[64] It is not as important a

---

[63] 'Et est scilicet ut iam dudum fixum lapidem cum modis sublimationis volatilem facias et volatilem fixum et fixum solutum et solutum iterato volatilem, et iterato volatilem fixum quousque flueret et alteret in complemento solifico et lunifico certo' (It is namely that you make the now fixed stone volatile with the techniques of sublimation, then the volatile fixed, the fixed soluble, and again volatile, and the volatile again fixed, until it flow and again change, in a certain solar and lunar complement; *Summa perfectionis*, p. 629, trans. p. 784).

[64] 'Abhinc vero cum fixionis modis figatur, donec in ignis asperitate quies-cat. Demum vero fixum lapidem cum non fixa parte servate, per modum solutionis et sublimationis volatile facias et volatilem fixum et fixum solutum et iterato volatilem, ac iterato volatilem fixum quousque fluat et alteret in complemento solifico et lunifico vero' (From here it is fixed with methods of fixing, until it quietens in the fierceness of the fire.

procedure as 'rubificacio',[65] or 'proiectio',[66] or even 'multiplicatio'.[67] Fixation is a crucial part of the alchemical process and yet it is no more crucial than sublimation or distillation. Gower chooses to focus on the word 'fixacioun' because it figuratively encompasses what he wants alchemy to be: a process which can fix things (in the modern sense) by making them fixed, that is more stable.[68] It can mend and perfect that which is broken or full of vice by rendering it less volatile.

Having explained the virtues of alchemy, Genius states that society is too degenerate to harness its power. After his delineation of the true 'science' of alchemy and how those 'that whilom weren wise' managed to make use of this knowledge in the form of alchemical art, Genius bluntly states, 'Bot now it stant al otherwise' (4, line 2580). The alchemical 'science', that is the body of alchemical knowledge, is there for all to see and yet 'nou wot non' (4, line 2582) how to make use of this body of knowledge. Whereas pseudo-Lull had suggested that there were those who had ears to hear the secrets of alchemy, Genius states that there is no one clever enough to understand it. Moral and intellectual degeneration has led to the truths of alchemy being incomprehensible. Genius trusts that, in the past, great minds had the ability to perform alchemy:

Eventually, keep the stone fixed with no fixed part, [and] may you make it volatile through the method of solution and sublimation and [make] the volatile fixed, the fixed dissolved, and again volatile, and again volatile fixed until it flow and again change, in a true solar and lunar complement; pseudo-Arnold, *Rosarius*, p. 354); 'Et quando illa pars erit fixa, fixabis postea aliam partem. Tunc reitera sublimacionem partis non fixe supra rem fixam, quousque ipsa similiter fixetur' (And when that part is fixed, you will afterwards fix the other part. Then again pass the sublimate of the unfixed part over the fixed thing until it becomes similarly fixed; pseudo- Lull, *Testamentum*, p. 388).

65 Pseudo-Lull, *Testamentum*, p. 398.

66 Pseudo-Arnold of Villanova, *Rosarius*, p. 352.

67 Paul of Taranto, *Summa perfectionis*, p. 629.

68 *MED*, 'fixacioun (n.): *Alch*. Reduction, by various processes, of a volatile substance to state not affected by fire or other agents of change; also *fig.*'; 'fixen (v.) 2. *Alch*. To change (a substance) to a permanent state'; and 'fix (ppl. & adj.) 1 (a): Fixed in position, implanted, lodged, unwavering; […] (c) *alch*. Invariable, not transmutable […] 1. (b) of a condition: permanent'.

Bot noght forthi, who that it knewe,
The science of himself is trewe
Upon the forme as it was founded,
Whereof the names yit ben grounded
Of hem that ferste it founden oute;
And thus the fame goth aboute
To suche as soghten besinesse
Of vertu and of worthinesse. (4, lines 2597–64)

These alchemical greats are famous because they were busy in the act of pursuing good. Here is a reminder that this alchemical section occurs in a book devoted to the sin of Sloth. Good alchemists, Genius argues, are intellectually busy. He then lists a number of alchemical greats whose names often appear in alchemical treatises: Hermes Trismegistus, Geber, Hortolanus, Morienus, and Avicenna. These authors, Genius states, wrote alchemical treatises 'pleinli' (4, line 2613) and yet 'ther ben full manye now aday, / That knowen litel what thei meene' (4, lines 2616–7). As Clare Fletcher has argued, Gower's alchemical digression highlights his belief in the distance between truth and understanding in his age.[69] Unlike Daniel, who interpreted the dream of Nebuchadnezzar accurately and was therefore exalted in his court, Gower's contemporaries could not interpret the life-giving language of alchemy properly. He believed that a curative truth was inscribed both in the physical world and in the books of great men, and yet he saw that people were too intellectually lazy to understand it.

Alchemy proves to Gower that if people were as intellectually busy as those who preceded him, then the world could be improved. As he had explored in the discussion of 'gentilesse',[70] which occurs before the alchemical section, the 'gentil' or noble man is one who eschews vice and follows virtue:

So mai that wel be gentilesse,
Which yifth so gret a sikernesse.
For after the condicion
Of resonable entencion,

[69] Fletcher, 'Science of himself', p. 129.
[70] For a discussion of Gower's depiction of 'gentilesse', see Nicola Masciandro, *The Voice of the Hammer: The Meaning of Work in Middle English Literature* (Notre Dame, IN: University of Notre Dame Press, 2007), p. 92.

> The which out of the Soule groweth
> And the vertu fro vice knoweth
> Wherof a man the vice eschuieth,
> Withoute Slowthe and vertu suieth,
> That is a verrai gentil man. (4, lines 2267–75)

As Fletcher notices, this discussion of vice and virtue in a 'gentil man' foregrounds the upcoming discussion of vice and virtue in metals.[71] Genius had stated that 'gentilesse' or nobility does not necessarily come from birth or wealth; it is rather something that one must work hard to attain. It is a desire governed by reason ('of resonable entencion') that grows naturally from the soul to provide sureness or stability ('sikernesse').[72] This stability comes from actively avoiding Sloth so that one can follow 'vertu' and avoid 'vice'. Just as Gower will proceed to focus on 'fixation' in alchemy because it adheres to his vision of social and elemental stability, so too does he here focus on 'sikernesse'. Mankind is ennobled through virtue in a similar way to metals. Both man and metals are made more stable and fixed through the intellectual labour of man. Alchemy in the *Confessio Amantis* is a potent metaphor for mankind's ability or lack thereof to make society and the physical world better.

Gower saw a corrupted world fighting against itself because of the sins of man. He was living in an age of iron and clay, surrounded by fools who could not understand the truths of the ancients. A number of *Vox Clamantis* manuscripts include an illustration depicting Gower firing an arrow at a sort of T-O map (Fig. 1). The accompanying verses state that the arrows that Gower fires at the world will not hit the 'iustus' (just), only the 'male viuentes' (evil-livers).[73] The arrows metaphorically represent Gower's barbed assaults on society. He seems to be attacking everyone and yet, as the image and accompanying verses suggest, it is only the 'conscius'

---

[71] Fletcher, 'Science of himself', p. 128.

[72] *MED*, 'sikernes(se (n.)', senses 1 and 4.

[73] Philip Knox acknowledges the following manuscripts: BL, MS Cotton Tiberius A. iv; San Marino, Huntington Library, MS HM 150; Glasgow University Library, MS Hunter 59 (T.2.17). For a discussion of these verses, see Philip Knox, 'The *Romance of the Rose* in Fourteenth-Century England' (DPhil dissertation, New College, University of Oxford, 2015), pp. 107–8.

Fig. 1. John Gower firing an arrow into an upside-down T-O map of the world, from an early fifteenth-century English manuscript of the *Vox Clamantis*; Glasgow University Library, MS Hunter 59 (T.2.17), folio 6v.

(guilty), who should be fearful of his arrows. The world that Gower is firing at is not a conventional T-O map. First of all, the T is upside-down. Secondly, rather than depicting Europe, Asia, and Africa, the world is divided into water, earth, and (depending on the manuscript) either the firmament or abstract wavy lines made up of two colours. The world, according to Gower, is topsy-turvy:

> Thus of his propre qualite
> The man, as telleth the clergie,
> Is as a world in his partie,
> And whan this litel world mistorneth,
> The grete world al overtorneth.
> The Lond, the See, the firmament,
> Thei axen alle jugement
> Ayein the man and make him werre.
> Therwhile himself stant out of herre,
> The remenant wol noght acorde.
> And in this wise, as I recorde,
> The man is cause of alle wo,
> Why this world is divided so. (Prologue, lines 954–66)

This passage would sit nicely alongside the image of Gower firing his arrow into an upside-down, elemental and divided world. An upset in the 'litel world' of man causes catastrophic effects in the macrocosm of the 'Lond, the See, [and] the firmament'. The arrows that Gower fires seek to chastise the bad elements of the world and to make them better. Just as the alchemist seeks to rid base metals of vice so that he can then imprint the image of gold onto the purified metal, Gower seeks to rid the world of vice so that the image of goodness, to which all souls 'ben acordant', can be printed on them more clearly. In this way, Gower's literary outputs become like the mineral stone. The mineral stone rids a metal of vice and allows virtue and nobility to imprint itself onto the now-clean metal. Similarly, Gower's poetry seeks to rid the world of vice and provide models of virtue (morals) which can shape a reader for the better.

Thomas Norton's Alchemical King

From Roger Bacon to John Gower, this chapter has already spanned a whole century. As the chapter comes to its close, I fast-forward another hundred years to highlight how the narrative of alchemical reform persisted throughout the late Middle Ages. Whilst Bacon's and Gower's visions of alchemical amelioration were somewhat universal, Thomas Norton's (c. 1433–c. 1513) was specific as he yearned for an alchemical king that would make things better for the England in which he lived. Where Bacon and Gower saw a moral alchemy, Norton saw a political one. Norton was the son of an influential Bristol merchant, whose own father had represented Bristol on numerous occasions in Parliament. In 1477, he finished writing the *Ordinal of Alchemy*, a 3102-line poem written in rhyming couplets that ostensibly teaches its readers, both 'clerkis' and 'lay-men' (lines 1–4), the secrets of alchemy.[74] The fifteenth century was a turbulent time in England and Norton, who had been cut off from a large part of his inheritance, sought favour with the Yorkist Edward IV.[75] Although Norton's relationship with Edward was exaggerated by later writers, particularly his alchemist grandson Samuel,[76] it seems that he was acting as agent of the crown in 1477, having been commissioned to seize the lands of a reputed

---

[74] The *Ordinal* was the second extended Middle English alchemical poem to bear its author's name after George Ripley's *Compound of Alchemy* (1471). See George Ripley, *Compound of Alchymy (1591)*, ed. Stanton J. Linden (Aldershot: Ashgate, 2001).

[75] I exercise caution in suggesting that Edward IV had a particular interest in alchemy. Although Jonathan Hughes has written about the subject in *Arthurian Myths and Alchemy: The Kingship of Edward IV* (Stroud: Sutton Publishing, 2002), his findings have been consistently refuted by historians of alchemy, see particularly Jennifer Rampling, 'The Englishing of Medieval Alchemy', *Ambix* 63 (2016), p. 271.

[76] See Anthony Gross, 'Norton, Thomas (d. 1513)', *Oxford Dictionary of National Biography* (New York: Oxford University Press, 1885–2004), www.oxforddnb.com [accessed 11 July 2021]; John Reidy, 'Introduction', in Thomas Norton, *Ordinal of Alchemy*, ed. John Reidy, EETS, OS 272 (London: Oxford University Press, 1975), p. xxxviii.

necromancer called John Stacey.[77] However, Norton's cries for a reforming alchemical monarch suggest that his relationship with Edward was not particularly strong.

Throughout the seven chapters of the *Ordinal*, Norton demonstrates a concern for Edward IV and his ability to understand alchemy. Chapter one prevaricates over those who can access the secrets of alchemy: he both affirms and denies that laymen can understand the intricacies of the art. One thing that he is sure about is that, in the hands of the wrong people, alchemy could topple kings:

> For this science most evir secrete be.
> The cause wherof is this, as ye may se,
> If oon evil man had herof alle his wille,
> Alle christian pees he myght hastly spille,
> And with his pride he might set a-downe
> Rightful kingis & princis of renowne.[78]

He also clarifies that nobility of birth does not define you as an alchemist; virtue, he argues is what makes an individual able to understand and perform alchemical deeds: 'For nyhenes of blode ne consanguynyte / Be not acceptide to this dygnyte; / So blode as blode may haue no parte, / But only virtue wynnyth this holi arte' (lines 225–8). Chapter two, which tells tales of alchemists good and bad, celebrates the life of the Thomas Dalton. Demonstrating a familiarity with members of Edward IV's court, Norton describes how Dalton refused to share the secret of alchemy with the king because he had not reclaimed the Holy Land and was therefore deemed unworthy by the alchemist.[79] Norton laments the fact that Edward was not worthy enough to receive the secrets of alchemy, for

[77] George, the Duke of Clarence, was believed to have hired Stacey to overthrow his brother King Edward through sorcery. See A. G. Little (ed.), *Franciscan Papers, Lists, and Documents* (Manchester: Manchester University Press, 1942), p. 204.

[78] Norton, *Ordinal of Alchemy*, lines 237–42. All further references will be to this edition.

[79] Norton names figures like Thomas Herbert, squire for the king's body, and John Delves, sheriff of Gloucester (who would later die fighting for the Lancastrians at Tewksbury). See John Burke and Bernard Burke, *A Genealogical and Heraldic History of the Extinct and Dormant Baronetcies of England, Ireland, and Scotland* (London: John Russell Smith, 1844), p. 157;

if he had been then he could have 'ceside taxis & talagis of the londe; / wherbi moch love & grace wolde haue be / Bitwene knyghthode, presthode & comynalte' (lines 1026–8). If only the king was worthy enough to possess the alchemical secret, then there would be unity amongst the populace.

Chapters three and four of the *Ordinal*, maintaining the text's oscillation between complimenting and insulting its lay reader, focus on 'oure stone' (the philosophers' stone) and 'þe grose werke' (the practicalities of the laboratory) respectively. In chapter three, Norton reveals the secret to an old fool called Tonsile and in chapter four, Norton tells his readers that they should hire professional 'wagid' labourers to work their alchemical furnaces, reserving the right to terminate their contracts. There is a lot to say about these chapters regarding both Norton's willingness to give up a secret that King Edward did not deserve to an old fool and the insights he gives into the professional alchemical workshop. However, I pass over these chapters to focus on the beginning of chapter five. Chapter five begins in 1465 when Hugh Brice, goldsmith and clerk of the mint in the Tower of London, oversaw the changing of the coin.[80] Norton tells his reader that this event, which involved Brice taking in old gold and silver coins and reissuing them with the same value but less weight, attracted a number of alchemists from across the country.[81] Alchemists with skills in alloying and the manipulation of metals were in demand at a time of coin debasement. Norton describes three alchemists, one from the Duchy of Lorraine, one from the Midlands, and one from 'vndir a crosse in thende of shirys three' (line 1396), who take up digs near Leadenhall, around the

---

and D. H. Thomas, *The Herberts of Raglan and the Battle of Edgecote 1469* (Enfield: Freezywater Publications, 1994).

[80] For a comprehensive account of the changing of the coin (1464–1465), see N. J. Mayhew, 'The Monetary Background to the Yorkist Recoinage of 1464–1471', *British Numismatic Journal* 44 (1974), pp. 62–73; see also, H. Symonds, 'Mint Accounts and Documents of Edward IV', *The Numismatic Chronical* 6, 5th series (1926), pp. 99–112; Rory Naismith, 'Introduction', in *Money and Coinage in the Middle Ages*, ed. Rory Naismith (Leiden: Brill, 2018), pp. 8–9.

[81] According to Mayhew, almost all coins from across England were brought to London to be changed in the period 1464–1475: Mayhew, 'The Monetary Background', p. 67.

corner from the Tower of London. Norton has a lot of faith in the youngest of these alchemists, whose glory, he claims, is clouded by the sins of those in power. The eldest of the Leadenhall alchemists, who also happens to be a prophet, corroborates Norton's judgement, declaring that great joy will follow sorrow on account of the doings of this young alchemist. This young alchemist, whoever he may be, looks set to change things for the better.

The prophesying alchemist specifies the time when the younger alchemist will flourish. He sees that there will be a time when the cross will be venerated throughout the Holy Land through the might of an alchemical king:

> This science [alchemy] shal draw towa[r]de the kynge;
> And many mo gracis ye may be bolde,
> Mo then of vs shulde now be tolde.
> Grace on that king shalle descende
> when he olde maners shalle amende;
> He shal make ful secrete serche
> For this science with dowcet speche,
> And a-monge the solitarie
> He shalle haue tidingis certeynlye.

Here is another acknowledgement that Edward IV is not worthy of the alchemical secret. Just as Dalton had refused to give the secret of alchemy to the king because of his lack of interest in the Holy Land, here the alchemist-prophet looks forward to a king that will be able to champion Christianity with those secrets. As Bacon, pseudo-Lull, and Gower had suggested, this alchemical king will improve the customs of the people. Despite Norton's purported affiliations with the court of Edward IV, it would seem that he was consorting with those who did not have faith in the usurper's rule. Bear in mind that this episode occurred a year after Edward's marriage to Elizabeth Woodville, an event which enraged Richard Neville, the 'Kingmaker' Earl of Warwick, whose family arms adorned a lost early manuscript of the *Ordinal*.[82] The alchemical trope of reformation is here politi-

---

[82] Elias Ashmole describes viewing a manuscript that bore the Neville's coat of arms: 'It had placed in the middle and bottome of the Compartiments of Flowers, Birds and Beasts, the Nevell's Coate of Armes, with others which that Family quartered', Elias Ashmole, *Theatrum chemicum britannicum* (London: 1652), p. 455. Hereafter, *TCB*.

cised; Norton is calling for a new king to reform England through
alchemical power. It is telling that immediately after mentioning
this alchemically inclined king, Norton refers to the story of Prince
Khalid and Morienus. This legendary story of how alchemy was
translated from the Greek to the Arabic world was one of the first
alchemical texts to be translated into Latin. It tells of how the Greek
hermit Morienus taught the secrets of alchemy to Prince Khalid, a
powerful of the Ummayad leader. Like that of Aristotle and Alexan-
der, it is a story that celebrates the philosopher's ability to empower
a ruler to conquer. It is a useful story to tell for an alchemist seeking
patronage from a would-be king.

  Around two thirds of the extant copies of the *Ordinal* begin
with a Latin preface, including the earliest witnesses and those now
lost but recorded by Elias Ashmole. This preface does two things:
hammer home the fact that laymen could never access the secrets of
alchemy and berate the kings of England for being uninterested in
it. Below is the beginning and end of this forty-line preface:

> Liber iste clericis monstrat scientiam,
> Liber sed laicis auget insciciam;
> Liber honores iuuans per copiam.
> Et liber pauperum fugans inopiam.
> Liber fiducie est et veritatis,
> Regibus consilium, doctrina prelatis;
> Et liber vtilis viris beatis
> Viuere qui cupiunt absque peccatis.
>   […]
> Sepe reges anglie decorasset hec res,
> Firma si in domino fuisset eorum spes.
> Ille sed qui capiet per hanc rem honores,
> Antiquos mores mutabit in meliores.
> Iste cumque venerit, regnum reformabit
> Virtutibus & moribus, & exemplum dabit
> Sempiternum regibus; plebs tunc iubilabit,
> Et mut[u]o se diligens laudes deo dabit.
> O rex hec futurus! deum regem ora,
> Et eius auxilium pro re hac implora.
> Tunc regi iusto fulgenti mente decora,
> Grata superuenient qua non sperabitur hora.
>   (Preface, lines 1–8, 29–40)

This book reveals knowledge to clerks, but this book increases the ignorance of laymen; the book helps the honourable with plenty and flees the need of the poor; the book is trustworthy and true, advice for kings, instruction for priests; and the book is useful for holy men who want to live without sin. […] This thing [the knowledge of alchemy] would have often honoured the kings of England, if their hopes had been steadfast in the Lord. But he who will seize honour through this thing will change old ways into better. When that man will come, he will reform the kingdom through virtues and morals, and he will give an example to kings forever; the people will then celebrate, and each will give loving praises to God. O this future king! Pray to God the king and beg for His help in these matters. Then honour and grace will come to the just king with a glittering mind at the unexpected hour.

This 'thing' is alchemical knowledge. Having made clear that the *Ordinal*, which contains the secrets of alchemy, is written to instruct the wise and advise kings, Norton lays bare his promise that he who understands it properly could reform England. He suggests that previous (and current) kings do not have enough faith in the Lord to perform alchemy and therefore have let the kingdom suffer. However, the alchemically gifted king will change society, not by enriching it through making lots of gold and silver,[83] but rather 'Antiquos mores mutabit in meliores' (he will change old ways into better). The presence of the Neville coat of arms in an early *Ordinal* manuscript is particularly notable due to the rising animosity between the Nevilles and the House of York throughout the 1470s.[84] It is hard to avoid the presumption that Norton, despite acting as an agent for the crown in 1477, was explicitly calling for a new king to reform the land. Whoever Norton's appeal was aimed at, it is clear that he understood alchemy holistically. He saw in alchemy an opportunity for England to be better.

---

[83] It is worth mentioning that there was a dearth of silver in England at this time, the metal of the most used England coins. See Mayhew, 'The Monetary Background', p. 62.

[84] Richard Neville died fighting Edward IV at the Battle of Barnet in 1471; George Neville, Archbishop of York, was charged with treason in 1472 and imprisoned near Calais for a number of years before his death in 1476 in England.

Alchemy, by its very nature, calls for reform. Alchemists re-form metals, humours, and elements. Roger Bacon, John Gower, and Thomas Norton saw that this reformation could be applied to society at large. Their narratives of alchemy were not merely metaphors for social reform, but rather proof that it could be done. The universe's inevitable entropic dissipation of form could be halted or even reversed by the intellect of a good alchemist. It is tempting to look ahead to the religio-political events of the sixteenth century with the narratives of alchemical reformation in mind, and indeed future research may illuminate the relationships between the Reformation and narratives of alchemical reform. However, such conjecture lies beyond the scope of this chapter. Suffice it to say that alchemy proved to some that reform was inscribed into the very fabric of the universe. If, these writers suggested, one was clever enough (and this was the crucial requisite), then one could improve the ways of men through alchemy. The trouble was finding people clever enough.

CHAPTER 3

British Library, MS Harley 2407

London, British Library, MS Harley 2407 is remarkable for the variety of Middle English alchemical poems that it contains. Comprising six booklets and mostly written by two fifteenth-century scribes, Harley 2407 has over twenty hands dating from the fifteenth to the eighteenth century tucked into its margins and written in spaces left blank by the earlier scribes. Among the recognisable hands are those of John Dee (1527–1608) and Elias Ashmole (1617–1692), representing two distinct classes of alchemical reader: the former, as Elizabeth I's advisor and court alchemist, practised alchemical operations in his laboratory in Mortlake;[1] the latter was an armchair alchemist, an amateur who saw alchemy as the means through which 'the perfection of Liberall Sciences are made known' and through which 'the whole Wisdome of Nature may be grasped'.[2] The entries of Harley 2407 cater for all tastes, as evinced by the marks, notes, and poems left by later readers. The manuscript contains practical recipes and it contains imaginative forays into alchemical philosophy. Alchemy is by turns materialistic and divine in Harley 2407 and always confusing. Having explored the ways in which alchemy is perceived by those who are outside its language, let us now turn to the multifarious voices of alchemists themselves.

Scientific and encyclopaedic information was often versified throughout the medieval period for mnemonic reasons; important information is easier to remember with meter and rhyme.[3] These days, we tend to favour the acronym or the acrostic as mnemonic tools (Richard Of York Gave Battle In Vain; Never Eat Shredded

---

[1] Deborah E. Harkness, 'Managing an Experimental Household: The Dees of Mortlake and the Practice of Natural Philosophy', *Isis* 88 (1997), pp. 242–62.

[2] Ashmole, *TCB*, p. ix.

[3] Robert M. Schuler, *English Magical and Scientific Poems to 1700: An Annotated Bibliography* (New York: Garland, 1979).

Wheat; MR VANSTRAMPED; BODMAS),[4] and yet it seems that the medieval mind was more attuned to the memory-jogging qualities of verse. In the introduction to his annotated bibliography of *English Magical and Scientific Poems to 1700*, Robert M. Schuler notes that 'by far the most popular subject [of scientific verse], both before and after 1500, is alchemy (127 entries); medicine in all its forms (about 100 separate entries) ranks second'.[5] This might lead us to conclude that there were more alchemists than physicians throughout the late medieval and early modern period, which is unlikely. As explored in the introduction to this book, alchemy had a long and particular relationship with poetry in ways that other sciences did not, especially in the Greek and Arabic tradition. Both alchemists and poets covered their work in integumental layers. They shrouded their truths in hermeneutic clothing, inviting readers to grasp at and peek through diaphanous garments to whatever might be beyond. Alchemical writing is inherently paradoxical, seeking both to conceal and reveal at the same time, and so alchemists borrowed from poetry this ability to gesture towards something whilst never explicitly naming it.

Until the fifteenth century, alchemical material circulating in England was predominately in Latin prose; fragments of Middle English alchemy survive from this period, often translations of Latin originals and seldom in verse.[6] There was a tradition of alchemical poetry in Latin, though not a considerable one.[7] With English being

---

4 Acrostics and acronyms for: the colours of the rainbow; the cardinal points; French verbs that take *être* in the perfect tense; order of operations in mathematical calculations.

5 Schuler, *English Magical and Scientific Poems to 1700*, p. xiv. See also Anke Timmermann, *Verse and Transmutation: A Corpus of Middle English Alchemical Poetry* (Leiden: Brill, 2013), p. 1.

6 There are only around fifteen extant manuscripts dating from the fifteenth century or earlier that contain alchemical literature written in Middle English; the vast majority of these are scribbled recipes for certain metallic dyes or inks. There are only two manuscripts from the fourteenth century that speak directly about alchemy in Middle English: BodL, MS Ashmole 1451 (IV) and BL, MS Sloane 2135. See Singer, *Catalogue*.

7 The Latin poems of John Dastin, for example, and his letters addressed to cardinals and popes do appear in a number of English manuscripts, including Harley 2407. See Wilfred Theisen, 'John Dastin's Alchemical

a relatively late language, we might look to the Continent for earlier examples of vernacular alchemical verse; there we find a comparative dearth.[8] It is fair to say that fifteenth-century England saw something of a phenomenon of alchemical verse. Beyond the two most widely circulated alchemical poems of the period, George Ripley's *Compound of Alchemy* and Thomas Norton's *Ordinal of Alchemy*, there exist over fifty alchemical tracts in verse from the fifteenth century, appearing in over 500 manuscripts.[9] Each of these manuscripts has its own characteristics, revealing something different about those who were reading them. Alchemical verse was seen alongside astrological tracts, religious tracts, accounts, travel journals, non-alchemical poetry, music, and everything in between.[10] Harley 2407 is only one manuscript among many; however, the variety of the poems it contains paints a multifaceted picture of alchemical poetry at the time.

There are nine Middle English alchemical poems in Harley 2407.[11] For the purpose of clear examination, I divide these poems into four categories: recipe-poems, gnomic poems, theoretical poems, and conceit-poems.[12] Although this does not correlate

---

Vision', *Ambix* 46 (1999), pp. 65–72; Wilfred Theisen, 'The Letters of John Dastin', *Ambix* 55 (2008), pp. 153–68.

8 See Didier Kahn, 'Alchemical Poetry in Medieval and Early Modern Europe: Preliminary Survey and Synthesis, Part I – Preliminary Survey', *Ambix* 57 (2010), pp. 254–8; and Didier Kahn, 'Alchemical Poetry in Medieval and Early Modern Europe: Preliminary Survey and Synthesis, Part II – Synthesis', *Ambix* 58 (2011), p. 64.

9 Rossell Hope Robbins, 'Alchemical Texts in Middle English Verse: Corrigenda and Addenda', *Ambix* 13 (1966), p. 63. Comparing Robbins' list of alchemical poems with the manuscript witnesses in Singer's *Catalogue* reveals the extent of the popularity of these poems.

10 For astrological tracts, see BL, MS Egerton 845; for religious tracts, see BL, MS Harley 218; for accounts, see BL, MS Sloane 320; for travel journals, see BL, MS Sloane 3644; for non-alchemical poetry, see BL, MS Harley 116; for music, see Cambridge, University Library, MS KK. VI.30.

11 There is also one alchemical adaptation of a non-alchemical poem, 'Hermes Bird', with eight alchemical stanzas to John Lydgate's 'The Churl and the Bird', which will be discussed in Chapter 4 of this book.

12 Didier Kahn lists three categories: 'gnomic poetry, enigmatic poetry and didactic poems.' Kahn, 'Preliminary Survey', p. 254.

with any formal medieval categorisation of alchemical verse, this division helps to demonstrate the composite nature of Harley 2407. It is important to remember that scribes were readers. Many of the poems of Harley 2407 were composed or copied in response to other entries. Harley 2407, and many alchemical manuscripts like it, was not written for a single reader. Judging by the number of hands that run through it, it was a manuscript that circulated from alchemist to alchemist, each at a different stage of his alchemical career and each with a different conception of what exactly alchemy was.

Recipe-Poems

The recipe-poems of Harley 2407 largely serve a mnemonic function. They are written in rhyming couplets and detail alchemical procedures. The first of the recipe-poems, 'The Secrets of Philosophy',[13] is tacked onto the end a prose tract whose margins are full of notae, symbols, and attempts at summary by different hands over the centuries. There is no space between the end of the prose and the beginning of the verse – written in the same hand as the prose; there is only a red capital and a red interlaced line that has been added later (the red overlaps onto the writing because the gap is too small). This prose tract, 'The Virtue of Our Stone',[14] attributed to Hermes (presumably Trismegistus),[15] can be seen as the heart of

---

[13] Incipit, 'Now I schal her*e* be gynne…'. The poem occurs in one other manuscript, the sixteenth-century Oxford, BodL, MS Ashmole 1487, on folios 73b-74r. The poem was given this title by William Henry Black in *A Descriptive, Analytical, and Critical Catalogue of the Manuscripts Bequeathed unto the University of Oxford by Elias Ashmole, Esq., M. D., F. R. S.* (Oxford: Oxford University Press, 1845), p. 1345.

[14] Incipit, 'Now to be holde and se transparently…'. As most of the entries of Harley 2407 have no titles and their *incipits* are somewhat unwieldy, I have provided my own titles to entries that have not already been given ones by later readers or scholars. For the title, see folio 18r: 'Thys tretys I make for the and schal schew the þe vertu of owre ston*e* & whereof he schulde be made.'

[15] Folio 18r has 'explicit p*r*ologus ermes' after the first page. It is a odd attribution considering the fact that the author debates with the opinions of later alchemists like Geber, pseudo-Arnold of Villanova, Morienus, and Hermes himself, whom the author calls 'the philosopher' throughout.

Harley 2407; many of the manuscript's poems attempt to summarise, elucidate, or else borrow its difficult language. The 103 lines of 'The Secrets of Philosophy' can be seen as an attempt to clarify the practical process of the hermeneutically challenging prose tract. The idiosyncratic alchemy of 'The Virtue of Our Stone', which causes the most marginal hullaballoo of the whole manuscript (see folio 25v), is its focus on the tripartite relationship between the body/earth/gold, the spirit/water/mercury, and the soul/fire/sulphur:

> So owre stone conteynyth in hym a spirite a body and a sowle. Now thow schalt understande that his water ys his spirite and his erthe ys his body and his eyre and fyre ys his sowle, and therfore the body may not stande withowte the sowle nether the sowle withowte the body; and where ys þe sowle there ys the spirite. Thow shalt understande that the spirite betokenys owre mercury and the sowle sulphur and the body owre sol or owre lune. (folio 25r)

The spirit, the body, and the soul are overcharged with alchemical signification: the spirit signifies water and mercury; the soul signifies air, fire, and sulphur; and the body signifies earth, sun and moon (gold and silver). This is a rather unique and altogether unhelpful definition of alchemical terminology. To make matters more confusing, it is worth pointing out that, in an alchemical context, the words 'body', 'soul', and 'spirit' referred rather to something approximating our understanding of 'solid', 'gas', 'liquid' than their more common metaphysical referents.[16]

   Unlike the prose tract that it concludes, 'The Secrets of Philosophy' is surprisingly specific. Whilst, of course, it is not specific enough for an individual to go away and create the philosophers' stone, it is as close as one can get to a straightforward alchemical recipe. It begins by telling its reader to take 'ii oncè' of some undefined substance and to mix it with 'anoder' (folio 29v). This mixture is then to be 'dissolve[d]' in a 'glas', which must be 'wel ishut' (ibid.). The poem speaks of different types of heat with which to warm the flasks at various stages in the process, specifying the 'sevyn dayis' (folio 30r) one must wait after the 'conjunciun' of the two substances. It shares with 'The Virtue of Our Stone' the language of the body,

---

[16] See Petrus Bonus, *Pretiosa margarita novella*, in *Bibliotheca chemica curiosa*, p. 50a. See also John Gower's listing of bodies and spirits in *Confessio Amantis* in Chapter 2 of this book.

soul, and spirit, 'and thus loke yow make good wache / tyl the body thy spirit can cache / and also thy sowle so must he' (folio 30v), and yet it does not complicate these terms by repeating them in ways that purposefully change their signification. These words are being used as simple *Decknamen* in the same way that *sol* refers to gold and *luna* to silver. In the above quotation, the author tells his reader to wait until gases (souls) and liquids (spirits) in the alchemical flask have reacted properly with the solid (body). Despite the simplicity of the language, the fact that the substance of which the reader must take 'ii onc*e*' is left undefined means that the recipe still requires foreknowledge or interpretation.

   The recipe ends with a relatively clear description of 'projeccion', the process by which the philosophers' stone/elixir is used to turn base metals into gold or silver:

> And than, of that on part thow take,
> The trew projeccion thus schal þou make.
> Cast hit on .x. of tyn, or leede,
> Or coper, or mercury. Ther, in that steede,
> In fine lun [silver] hit schal be broght
> Or into sol [gold], evyn after þi thoght.
> After that thy lexer ys,
> Be hit white or rede I wys,
> If thow hit cast on iren also
> Hit schal be lun or sol ther to.
> Þys ar the secretts of philosophye.
> I cowncel þe kepe hit secretlye
> And serve þy god both nyght & day;
> The better þou schal spede, þys ys no nay.
> Now I have taught þe how þou schal do,
> Þe blys of hevyn god bryng hus to. (folio 31v)

The instructions are simple: cast one part of the elixir with ten parts of whichever metal the alchemist wishes to turn into gold or silver. Although its form is didactic, seemingly instructing its reader on how to perform transmutation, it is written for adepts, for those who already know, or think they know, what the *prima materia* (the substance with which to begin the alchemical process) is. As long as someone knows what that substance is, they could follow the instructions of 'The Secrets of Philosophy' fairly simply. Even though the *mise-en-page* suggests that it is a continuation of 'The

Virtue of Our Stone',[17] the way that the poem cuts through the prose tract's convoluted language to produce a clear and replicable procedure suggests that it is not part of the same text, as the rubricator makes clear.[18]

The second recipe-poem of Harley 2407, 'Titan Magnesia', is a variant of a poem called 'Spain', both of which (along with two other distinct poems) occasionally go by the name of 'Richard Carpenter's Work'.[19] The only difference between the two variants is the name of the recipe's initial ingredient: either 'spayn' or 'titan magnasia'. 'Spain', with nineteen manuscript witnesses, circulated fairly widely; 'Titan Magnesia' survives in only three extant witnesses.[20] Anke Timmermann, in her comprehensive study of alchemical poems associated with 'Verses upon the Elixir', ascertains that the poem is related to a didactic Latin dialogue called 'Alumen de Hispania'.[21] Considering the Latin title, it is fair to assume that the more frequent title of 'Spain' was the poem's original moniker. Timmermann notes that the Middle English poem strips the Latin of its dialogic structure to focus mainly on the alchemical recipe it contains. However, she also acknowledges the poem's interest in more theoretical matters, in particular its preoccupation with who can access the knowledge of alchemy. In discussing the title of 'Titan Magnesia', as it appears in Harley 2407, Timmermann refers to 'pseudo-Lullian alchemical lore', in which '"magnesia" was a symbolical name for any number of substances'.[22] As 'The Secrets of Philosophy' had been, 'Titan

---

[17] There was a Latin precedent for prose alchemical tracts to end with verse summaries. See pseudo-Lull, 'Cantilena', in *Testamentum*, pp. 519–25; Timmermann, *Verse and Transmutation*, p. 45, n. 75; Schuler, *Alchemical Poetry, 1575–1700: From Previously Unpublished Manuscripts* (New York: Routledge, 2013), pp. 420–8.

[18] The rubricator further separates the verse from the prose by attributing it to Arnold of Villanova.

[19] Timmermann, *Verse and Transmutation*, pp. 40–50.

[20] Cambridge, Trinity College, MS O.2.15, folios 88r–v; BL, MS Sloane 1098, folios 10r–11v; and Cambridge, King's College, Keynes Alchemical MS 37, folio 4r. See Timmerman, *Verse and Transmutation*, p. 268.

[21] The Latin dialogue is a translation of a Hebrew text, which itself may have been translated from Arabic. Timmermann, *Verse and Transmutation*, pp. 102–7.

[22] Timmermann, *Verse and Transmutation*, p. 42, n. 70.

Magnesia' is vague about its ingredients, demanding its reader to carry alchemical preconceptions to its processes. The ambiguity of the words 'titan magnasia' has already been discussed in Chapter 1, where Chaucer's Canon's Yeoman spoke of 'the stoon that Titanos men name', further defining it as 'Magnasia'.[23] In 'The Canon's Yeoman's Tale', when Plato explains to his student that Titanos is Magnasia, the student replies by exclaiming 'this is *ignotum per ignocius*' ([explaining] the unknown through unknown [things]). The student does not know what either Titanos or Magnesia mean; they are obscure words even for alchemists. I posit that the author of 'Titan Magnesia' was engaging with 'The Canon's Yeoman's Tale' when he tells his reader to take 'titan magnasia' in order to start the work.[24] In 'The Canon's Yeoman's Tale', Titanos/Magnesia is presented as a frustratingly unknown and unknowable entity. The author of 'Titan Magnesia' playfully adopts this term, flaunting the difficulty of alchemical language, as was the wont of alchemists who cherished the many difficult names for alchemical substances.

In the first few lines of the poem, the author gives this substance (titan magnesia/spayn) three more names: 'the redde gumme that ys so bryghte / of philosofris the sulfir vyfe / I called gold wyth outen stryfe' (folio 91r). The alchemist must take the clear light of titan magnasia/spayn, which is a bright red gum that philosophers call both living sulphur and gold 'wyth outen stryfe'. This description of 'titan magnasia' is '*ignotum per ignocius*'. Even the recognisable words that the author uses to describe this substance, such as sulphur or gold, are modified so that they do not signify what they normally would. The author is not saying that 'titan magnasia' is sulphur, but rather 'sulfir vyfe' (living sulphur); neither is he suggesting that it is gold, but rather 'gold wyth outen stryfe'. This mention of strife-less gold echoes the language of 'The Virtue of Our Stone', which repeatedly mentions the 'stryfe' of various substances including gold, mercury and mercury's wife.[25] Following in this vein, 'Titan Magnesia' proceeds to tell its reader to 'make a mariage pure / betwene the husbonde and the wyf.' To what exactly the 'husbonde' and 'wyf'

[23] See pp. 30–9.

[24] He would not be the only alchemist to incorporate The Canon's Yeoman's Tale into their work: see Thomas Norton, *Ordinal of Alchemy*, line 1164.

[25] Rampling, 'Transmuting Sericon', p. 23.

refer is, of course, unclear. These are not uncommon alchemical statements; I emphasise them here to demonstrate the shared language of imprecision that runs through both the recipes and the prose tracts of Harley 2407.

Timmermann summarises the processes of 'Titan Magnesia' admirably well but cannot be precise about what these processes produce:

> It begins with the extraction of a tincture from "Spain", further specified as red gum/*sulphur vive*/gold, whereupon a husband and wife (sun and moon, philosophical gold and silver) are amalgamated (ll. 1–11) to generate a (mineral, cf. l. 46) stone with the help of mercury (ll. 12–16). The stone is then subject to liquefaction, probably by distillation, as the recipe warns that the fume must be preserved (ll. 17–23). It also specifies the temperature needed to see a succession of colours in the work as the aforementioned stone decocts and changes its properties (black, white, red and "citrine", ll. 35–46). The result, an amalgamated, inseparable substance, decocts in a sealed container to generate the animal stone (described with its qualities in ll. 35–46).

This is a wonderfully precise and vivid description of the vague alchemical procedure set out by 'Titan Magnesia'. To an alchemist who has spent his life trying to discover the substance needed to begin this alchemical process, 'Titan Magnesia' provides a template to test his current theories. His success or lack thereof would then drive him further along the hermeneutic search for alchemical truth. Although she is not talking about this poem specifically, Jennifer Rampling makes a strong argument for the fifteenth-century alchemical *desideratum* being minium, 'an orange-red powder made by calcining litharge (modern lead oxide)', often used as red ink in medieval manuscripts. Litharge (sounds like letharge/lethargy – 'wyth outen stryfe'?) is a bright red gum. Another way of making minium was to heat white lead (which was itself made through an alchemical process involving vinegar and a change in colour from black to white) in air. This would lead to the white lead turning yellow or red (depending on length of heating), just as the author of 'Titan Magnesia' suggests.[26] However, if red ink is indeed the

---

26 Daniel V. Thompson, *The Materials and Techniques of Medieval Painting* (New York: Dover Publications, 1956), p. 100.

alchemical goal, this substance ('spayn'/ 'titan magnasia') could just as well be cinnabar, bright red mercuric sulphide, mined predominantly in Spain. Both of these substances sound promising and yet neither really hold up to the recipe's processes. The poem's broad imprecision, rooted in so many alchemical traditions, invites such efforts to fill in the missing ingredients.

As Timmermann suggests, 'Titan Magnesia' is interested in the intellectual ability of those trying to perform alchemy successfully:

> To mane a man hyt wel not be
> To brynge aboute thys tresour,
> I mene owre ston of suche valour.
> And ȝette, ho coude wel understand
> Maye fynde hit redy at hys hande. (folio 92v)

The author states that the philosophers' stone will only reveal itself to those who 'wel understand'; a great number of people cannot access the stone. However, if someone understands 'Titan Magnesia' well enough, then he will realise that the stone has been there all along 'at hys hande'. After suggesting that most people will not be able to understand the poem, the author proceeds to detail the rewards that await those who do:

> Ffor fowles that in the eyre don flee;
> And also fisches in the sea;
> The moyster of the rede grape,
> And of the whyte who coud hym take;
> Verteus of erbes vegetyff;
> And soules of bestes sensytyff;
> Reysons of angels that doth discerne
> Goode and yeul man to gouerne;
> All bryngs to thyn house
> Thys noble ston preciouse. (folios 92v–93r)

The philosophers' stone gives its creator power over all living things, including the souls of beasts and the reason of angels. As well as power over all living things, the stone gives its creator the power over 'the moyster of the rede grape, / And of the whyte.' These *Decknamen* refer to an alchemical substance that involves alcohol or vinegar (the juice of grapes) and either sulphur and mercury or

gold and silver (red and white).[27] Power over the 'the moyster of the rede grape, / And of the whyte' is synonymous with power over the metals. Importantly, this 'noble ston' is available both 'to lewde & to clerke' (folio 93r). A lack of formal education, the author claims, is no hindrance to being able to understand alchemy properly. In this way, the poet opens up the alchemical secret to all. Such clear and wide-ranging promises would awaken the interest of even the least alchemically knowledgeable reader. The author of this poem tells his reader (lewd or clerk) that if he understands the poem properly, and thereby creates the philosophers' stone, he can have all living things under his government.

The more philosophical ending of 'Titan Magnesia' is not drawn from its Latin source, 'Alumen de Hispania', which only ventures into the philosophical when it mentions certain secrets being the 'secretum dei magnum' (great secret of God).[28] The omnipotence of the philosophers' stone and its availability both to lewd and clerkly is unique to the Middle English adaptation. This ending is an advertisement for the benefits of alchemy. Unlike 'The Secrets of Philosophy', which offers nothing to the alchemical novice, 'Titan Magnesia' articulates the alchemical promise: universal power to anyone who seeks properly. Although the specifics of the procedure it describes are addressed to the adept, the poem acknowledges that it might be read by those at the beginning of their alchemical journey. 'Titan Magnesia' details the rewards awaiting the successful alchemist, stimulating a passing reader into trying to understand its hidden teachings.

Gnomic Poems

The brevity of the gnomic poems allows for their reproduction in full. The following is the text of 'On Mercury' as it appears in Harley 2407:

> And thou wedde m*ercur*y to m*ercur*y wyth hyr wyfe,
> Than schalle m*ercur*y and m*ercur*y be mery wythowtten stryf.

---

27   For a discussion of the significance of grapes in alchemy, see Rampling, 'Transmuting Sericon', pp. 22–31.

28   Timmermann, *Verse and Transmutation*, p. 311.

> Ffor m*ercury*'s wyfe to m*ercury* makyth grete stryfe,
> But m*ercury*'s wyfe hys wyfe to m*ercury*s makyth no stryfe.
>   (folio 2v)

The poem exists in two other manuscripts, both descendants of Harley 2407: BL, MS Egerton 845 (fifteenth century) and BodL, MS Ashmole 1445 (seventeenth century).[29] In these two manuscripts the poem appears as follows:

> Take ☿ [mercury] frome ☿ whiche is his wyfe,
> For ☿ wyfe to ☿ makythe great stryfe;
> But ☿ wyfes wyfe,
> To ☿ makythe no stryfe.[30]

This poem in both of its forms looks like nonsense, repeating as it does the words 'mercury' and 'wyfe' *ad absurdum*. Traditionally, sulphur and mercury, the fundamental building blocks of metals, are depicted as husband and wife respectively.[31] The sexual union of the two might bring about the philosophers' stone, or gold, or the elixir, or whatever it might be that a particular alchemist wishes to obtain. 'On Mercury', however, complicates this concept by getting rid of sulphur and confusing the marriage relations of mercury and his/her wife. In the Harley 2407 version, the poem tells its reader to wed mercury with mercury, who is already 'hyr wyfe'. The poem does not cohere, even on its own terms: it suggests that mercury and mercury (mercury's wife) will be 'wythowtten stryf' because mercury and mercury's wife make 'grete stryfe'. Despite the fact that the Egerton 845/Ashmole 1445 version of the poem occludes meaning by hiding the word 'mercury' behind the '☿' symbol, it does gesture towards a semblance of coherence by entreating its reader to separate ('take') mercury from mercury, who is mercury's wife. The separation of mercury from mercury ceases the strife, which mercury and

---

[29] The relationship between Harley 2407 and Egerton 845 can be established by the latter's replication of pen drawings contained in the former; for a stemma positing the relationship between Harley 2407 and Ashmole 1445, see Timmermann, *Verse and Transmutation*, p. 177.

[30] BL, MS Egerton 845, folio 16v; BodL, MS Ashmole 1445, folio 36r. Ashmole prints both versions next to each other in the *Theatrum chemicum britannicum*, p. 434.

[31] Principe, *The Secrets of Alchemy*, pp. 73–81.

mercury's wife's wife do not have. There are two different chemical procedures being described across these variants of the same poem. The wedding of mercury to mercury suggests a combination of two substances; taking mercury from mercury suggests an extraction. If these gnomic poems were written as mnemonic devices, they did not do their job very well. Someone, somewhere, seems to have forgotten the connubial relationships of mercury.

Reinforcing the centrality of 'The Virtue of Our Stone' to the poems of Harley 2407, 'On Mercury' is a pithy summary of one of the prose tract's more confusing statements. Criticising those who peddle false theories about how to create the philosophers' stone, the anonymous author of 'The Virtue of Our Stone' dismisses a theory that he attributes to Arnold of Villanova which argues that one must 'menge [mix] mercury with mercury tyl on clene watur flowe owte of the 2 mercurys' (folio 19r). The only true way to obtain the elixir, our author states, is to 'draw mercury fro mercury' (folio 19v). In other words, according to the author of 'The Virtue of Our Stone' and not pseudo-Arnold, the process is one of extraction rather than reaction. The author summarises his position on the philosophical mercury by referring to mercury and his wife:

> And therfor, thow schalt understande wel this terme that I schal tel the: loke thow be war of thi mercury. For mercury's wyfe to mercury maketh greet strife, but mercury's wyfe hys wyfe to mercury never maketh no strife. And therfore thow must be war of these mercuris how thay schal be knyt togeder withowtyn stryving. And yyt alle these thre ben but on and all comethe owte of on kynde, & therfore loke thow take hede ther to. (folios 20r–v)

Here is the paradoxical position that appears in both versions of 'On Mercury'. After having argued that mercury is to be drawn from mercury, the author states that mercury and mercury are to be 'knyt togeder'. Furthermore, he conflates that which he had earlier distinguished by claiming that 'yyt alle these thre be but on', removing any distinctions previously made between mercury, mercury's wife, and mercury's wife's wife. It is no surprise that there is confusion in different versions of 'On Mercury'. This obscure passage, rife with underlining, notae, and marginal notations in different hands, drew the attention of later readers, who saw it harbouring important alchemical information. 'On Mercury', which is written into a flyleaf of Harley 2407 by a different (slightly later) hand to the one that

wrote 'The Virtue of Our Stone', tries to capture the alluring illogic of the prose tract.[32] The author suggests that those who understand what mercury, mercury's wife, and mercury's wife's wife refer to will understand the secret of alchemy. A dearth of understanding is evinced by the poem's variants. The versifier, a reader of and note-taker from 'The Virtue of Our Stone', reveals what he believes to be the crux of alchemical language, turning alchemical difficulty into a sort of riddle-mantra that promises powerful secrets to its codebreaker.

   Immediately after the mention of mercury and his or her mar-ital relations, the author of 'The Virtue of Our Stone' addresses the reader saying:

> Now I schall tell the mor*e* clerely to thy understandyng thow mayst wel wete be greet resun and thow wolt under stande that the sowle ys drawen fro the body with the myght of the sp*iri*t and the sp*iri*t with the myght of the sun and the mone bothe ~~wich~~ that ys to sey hote and moyst and cold and moyst or ellys ther may ben no p*er*fit put*rifyi*ng. (folio 20v)

This section receives a lot of attention by later readers: one of whom underlines almost the whole passage; another who draws lines down the side of it, setting it in a sort of box; another underlines the words 'sowle', 'sp*iri*t', 'sun', and 'mone' in red as well as writing a capital 'H' twice in the right margin; another clarifies that 'þe soul is drawne quid est *with* the spryte' in the left margin; and a much later hand that simply writes 'oþu' and 'hot|n' in the right margin. To these readers, it seems that the above explanation does help to clarify the obscurity of mercury, his wife, and his wife's wife. There is, helpfully, mention of a specific chemical procedure: putrefaction. As the author continues to discuss the spirit, 'wich ys callyd owr m*er*cury and also a sotel sulphur', which has a 'sp*iri*twal body in visebyl', which is given to him from God and 'of the natur*e* of the sun and of the mone & of the

---

[32] On the same flyleaf, all in different hands: a note likening an alchemical substance to some organic matter, a note detailing that 'macrocosimus' means 'maior mu*n*dus' (greater world) and that 'microcosimus' means 'minor mu*n*dus' (lesser world), and a series of 1s and 0s that is associated with the '10-man variant of the Josephus Problem'. See British Library manuscript description for MS Harley 2407, www.bl.uk/manuscripts/FullDisplay.aspx?ref=Harley_MS_2407 [accessed 10 July 2021].

Fig. 2. A heliocentric alchemical/astrological diagram with Robert Freelove's name written on a banner at the top, from a collection of astrological and alchemical booklets ranging from the fifteenth to the sixteenth centuries; London, British Library, MS Egerton 845, folio 21v.

natural fatnes of the erthe', at least there are some definite referents for a reader to cling onto. When 'On Mercury' sits alone, separated from 'The Virtue of Our Stone', as it does in manuscripts like Egerton 845 and Ashmole 1445, its mystery heightens. Mercury's wife could be a synonym for a base metal, from which mercury is to be extracted;[33] alternatively, mercury's wife could be a synonym for sulphur;[34] it could be that mercury's wife's wife is actually mercury and that the poet is asking the reader to remember the prevalent 'mercury alone' theory propagated by pseudo-Geber (Paul of Taranto).[35] Even when a reading of these terms has been decided, an alchemist must still try to figure out what it means for mercury and mercury's wife to have strife. Then he must decide whether to wed mercury and mercury's wife, or whether to take one from the other. Finally, he must decide what either of these processes might look like. Even in Harley 2407, 'On Mercury' is read before 'The Virtue of Our Stone', separated from it by thirty-three folio pages. It is a poem that requires either prior knowledge or creative interpretation, both of which were supplied by later readers of alchemical verse.

Egerton 845 is made up of three booklets: booklets one and two date from the fourteenth century and contain astrological treatises; booklet three, appended to the manuscript at a later date, was compiled in the sixteenth century and contains alchemical material. The alchemical booklet of Egerton 845 is short, comprising only eight leaves, and is unique for its preponderance of alchemical illustrations. The final illustration on folio 21v (Fig. 2), which bears the name of a certain Robert Freelove at its top, depicts an anthropomorphised image of the sun at the centre of three eccentric circles signifying (moving outwards) the sun, the moon, and mercury. Outside of these circles is depicted the seven planets, which are represented

---

[33] See 'The Virtue of Our Stone', folio 28r: 'take an unp*er*fit body and drawe of hym a clere p*er*fit sowle by the helpe of the spirit or ellis ye com nat to this craft'. For a discussion of the 'body' and 'soul' of metals, see below analysis of 'The Whole Science', pp. 110–12.

[34] BodL, MS Ashmole 1451 (II) speaks of mercury as 'sulph*ur*'s wyfe', folio 6v. This maintains the traditional genders of sulphur (male) and mercury (female).

[35] See Paul of Taranto, *Summa perfectionis*, p. 489. The 'mercury alone' theory posits that mercury is the fundamental principle of all metals, rather than a mixture of both sulphur and mercury.

as semi-circular discs protruding from the outermost ring like the petals of a flower. Beyond these, the four elements are written in large circles at the top and bottom of the diagram alongside the twelve signs of the zodiac written in smaller circles. This particular diagram, copied from folio 57r of Harley 2407, is emblematic of the cryptic entries in the alchemical booklet of Egerton 845. Freelove was a sixteenth-century mercer of London and translator of texts attributed to Roger Bacon, Avicenna, and Jean de Meun.[36] The green pigment that is used to decorate the scroll in which he places his name on folio 21v is the same pigment that is used to colour the circle of mercury in the diagram on folio 21v.[37] The hand is the same hand of previous diagrams, most of which are taken directly from Harley 2407.[38] From the material that Freelove lifted from Harley 2407, we can get a picture of how the fifteenth-century manuscript was read by a metropolitan, mercantile reader. As well as the more enigmatic and alluring diagrams, including one of a man and a woman embracing in an alchemical flask full of liquid alongside a toad and a snake, whose tail and head the male clasps to form something of an ouroboros, above whom an eagle flies upwards dropping liquid onto the copulating couple below, Freelove picked out the gnomic poems as worthy of copy.

    The second gnomic poem of Harley 2407, also appearing in Egerton 845, is also drawn from 'The Virtue of Our Stone'. The poem, which has been given the title 'The Whole Science', picks out

---

[36] For Freelove's translation of pseudo-Bacon's *Radix mundi*, see Dorothea Waley Singer, 'Alchemical Writings Attributed to Roger Bacon', *Speculum* 7 (1932), p. 82. See also BL, MS Sloane 1799, folios 31–73. For his translation of pseudo-Avicenna, see BodL, MS Ashmole 1478, pp. 94–6. For his translation of pseudo-Jean de Meun, see New Haven, Beinecke Library, MS Mellon 33, folios 25r–59v. Another manuscript that was in the possession of Robert Freelove is BL, MS Sloane 3604.

[37] Curiously, Freelove puts the date 1453 on the scroll, even though he was alive a century later. How exactly Freelove would have come into contact with Harley 2407 is unclear, considering the fact that it would have been under the ownership of John Dee throughout the second half of the sixteenth century.

[38] Egerton 845 copies five diagrams from Harley 2407, all of which are unique to these two manuscripts (some of the diagrams are copied by Elias Ashmole into the *Theatrum chemicum britannicum*).

a few fundamental concepts from the passage that follows the mention of mercury, his wife, and his wife's wife, knitting them together into another difficult piece:

> Ther ys a bodi of a bodi,
> And a soule and a spryte,
> With ii bodies most be knete.
>
> Ther bethe ii erthys, as I þe tele,
> And ii wateres wyth hem to dwele,   5
> The ton ys whyȝt the tother ys red,
> To queke the bodies that ben ded;
>
> And i fyer yn nature y hede;
> And i ayer wyth hem þa doth þe ded;
> And al hyt cometh owte of on kynd.   10
> Marke this wel man in thy mynd. (folio 90v)

Just as 'On Mercury' attempts to catch a fundamental tenet of alchemy in four cryptic lines of verse, 'The Whole Science' tries to incorporate important alchemical concepts into one poem. It is important to remember that, as was the case when such terminology was used in the recipe-poems, 'The Whole Science' is talking about metallic 'bodies', liquid 'spirits', and volatile 'souls', and not metaphysical entities. Whilst I cannot provide the key to unlock the meaning of 'The Whole Science', I can attempt to elucidate some of its terminology. Alchemical bodies, souls, and spirits are made up of the four Empedoclean elements (earth, air, fire, and water), each of which is mentioned in varying quantities in the poem (two earths, two waters, one fire, and one air). The mention of the red water and the white water reminds a reader that there are different transmuting agents that work for different metals: red turns certain metals into gold and white transmutes other metals into silver.[39] The fact that these substances have the ability to 'queke the bodyes þat ben ded' (line 7) suggests that they might have some dissolving powers, as the living/dead dichotomy was often employed to suggest liquid/solid.[40] The final remark, that all that is mentioned in the poem 'cometh owt of on kynd' (line 10), evokes the *prima materia* (first matter), which

---

[39] Principe, *Secrets*, p. 32.
[40] *Quick*silver, for example, could be killed to produce silver. See pseudo-Arnold of Villanova, *Liber de secretis naturae*, pp. 510–12.

was either the substance needed to begin the alchemical process, candidates for which range from eggs, through urine, to mercury,[41] or it was the essential matter (*hyle*) of the universe, out of which substance all the elements were themselves are created.[42] As 'The Whole Science' is framed only by the words 'ther ys', this poem does nothing more than remind its reader of some of alchemy's important terminology, an exhortation made explicit in the poem's final line. However, as the above analysis shows, even a superficial interpretation of this terminology can be wrought with confusion.

As in 'On Mercury', 'The Whole Science' obscures meaning with a doubling of words. Referring to the 'bodi of a bodi' separates the word 'body' from its common usage. Alchemists had a habit of doing this. They spoke of 'our sulphur' and 'philosophical mercury', differentiating what they were talking about from everyday brimstone and quicksilver. As mentioned above, 'The Whole Science' takes its focus on bodies, spirits, souls, earth, water, air/fire, mercury, sulphur, and the sun/the moon from 'The Virtue of Our Stone'. That is not to say that this sort of language is not prevalent in almost all alchemical literature, but rather that early readers of the prose tract were particularly interested in how this author associated body/earth/gold/silver with spirit/water/mercury and soul/sulphur/air/fire. Neither 'The Whole Science' nor 'On Mercury' is written in one of the manuscript's main hands. Both poems are inserted at a later date either at the beginning of the end of one of the manuscript's booklets.[43] It

---

[41] For an attack on those who take urine and dung for their *prima materia*, see Ibn Umail, *Tabula Chemica*, pp. 192–3.

[42] For an analysis of the principle of *hyle* or prime matter as it relates to alchemy, see Principe, *Secrets*, p. 109. Avicenna had stated that a metal could not be transmuted 'nisi forte in primam materiam reducatur' (unless by chance it might be reduced to prime matter; Avicenna, *De congelatione et conglutinatione lapidum, Being Sections of the Kitāb al-Shifā*, ed. and trans. E. J. Holmyard and D. C. Mandeville (Paris: Paul Geuthner, 1927), p. 54).

[43] The near-contemporary hand that writes 'The Whole Science' on folio 90v began to write the poem on folio 67v, following the precedent of another writer who had written a Latin poem, 'Pondera mercurii', on the verso side of a folio that depicts an alchemico-botanical diagram. It seems that the author might have thought that he would have run out of space before the diagram on the next folio.

is almost certain that the gnomic poems were added for mnemonic or didactic purposes after the manuscript's original compilation. Responding to one of Harley 2407's central prose texts, as did other readers who left their marks in the manuscript's margins, these cryptic verses crystallise difficult, though essential, alchemical concepts. As they drift away from their initial context and are reproduced in later manuscripts, these verses become more and more opaque. In Robert Freelove's Egerton 845, they sit alongside complex diagrams and suggestive illustrations that have little do with the alchemy of 'The Virtue of Our Stone'. This merchant-alchemist picked out the least concrete and most mysterious items of the earlier manuscript. For some readers, it seems the mystery of alchemical obscurity was particularly appealing.

Theoretical Poems

For those who are not alchemists, the theoretical poems of Harley 2407 are more immediately engaging than the gnomic poems or the recipe-poems. Rather than teach their readers the impenetrable particulars of the philosophers' stone, they explore alchemy in the abstract. The two theoretical poems of Harley 2407 are written in red ink, one after the other, at the start of a booklet that contains one other entry, an alchemical rendering of John Lydgate's 'The Churl and the Bird', written in black ink. Timmermann sees the two poems as one, however the presence of the word 'amen' at the end of the first and a large decorated initial at the start of the second suggests otherwise. The first of the theoretical poems, 'This Mighty Stone', draws heavily from the end of 'Titan Magnesia', describing the power that the philosophers' stone will give its creator:

> In the name of the holi tr*i*nite,
> Now send ws grase so hyt be.
> Fyrst god made boþe angel & heuen
> And alle so the world wyth planets seven;
> Man and woman wyth gret sencewalite,   5
> Sum of astate and oþer in hyre degre;
> Boþe best and worm for in the grown crepe
> Eu*er*eych in hys kynd to reseue hys mete;
> Egles and fowlis in the eyre don flea
> And swemyng of fycheys also in þe see;   10

Wyth vigital moyster*e* and of þe red grap
And alle so of the whyte, hos can hym take,
Alle meneral þyng that growyth in grownd,
Sum to encress and sum to mak a nend.
Alle thes bryngeth now to owre howse   15
Thys mightti ston that ys so precius,
Thys ryche reby, that stonn of pryce,
The whiche wosse send owt of paradice.
Thus made the grete god of heuen,
Wych alle ben rewled vnder planetes seven,   20
God sende ws parte of thys secrete
And of that heuen þat ys so sweet. Amen. (folio 75r)

Just as in 'Titan Magnesia', the author of 'This Mighty Stone'
states that all created beings, the hierarchy of which it describes
in descending order, can be brought to the 'howse' (line 15) of the
alchemist through the power of the philosophers' stone. In this ren-
dering, the stone brings even more entities under the control of the
successful alchemist, such as the 'planets seven' (line 4), 'man and
woman' (line 5), and 'alle meneral þyng' (line 13). 'This Mighty Stone'
clarifies that which was difficult to comprehend in the similar pas-
sage from 'Titan Magnesia'. Instead of simply listing the moisture of
red and white grapes as something that will be under control of the
successful alchemist, the author of 'This Mighty Stone' explains that
it was with this 'moyster*e*' that God created metals:

god made […]
Wyth vigital moyster*e* and of þe red grap
And alle so of the whyte, hos can hym take,
Alle meneral þyng that growyth in grownd,
Sum to encress and sum to mak a nend [*sic*]. (lines 3–14)

Lines three to fourteen of 'This Mighty Stone' are governed by the
phrase 'god made'. The author states that all mineral things that
grow in the ground were created by God with vegetal moisture *as
well as* with both the red and the white grapes. This is not quite the
same concept that was expressed in 'Titan Magnesia', which had
listed the moisture of the grapes as one of the many things that
could be harnessed by the alchemist with the power of the stone. The
author provides more detail about the alchemical constitution of the
universe, clarifying rather than obscuring.

Whereas the focus of 'Titan Magnesia' was to describe a par-
ticular alchemical procedure, 'This Mighty Stone' is more concerned
with general alchemical principles. Having introduced the fact that
God made all manner things with the 'vigital moyster*e* and of þe red
grap', the author describes how these substances can 'encress' and
'mak a nend' of mineral substances within the ground. As discussed
in Chapter 2, certain alchemists believed that gold or silver were the
endpoints of all metals; all other metals were imperfectly formed.[44]
Just as God makes an 'encress' and 'a nend' of metals in the bowels
of the earth (multiplies their volume and matures them from base
metals into gold and silver) so too do the alchemists in their labora-
tories through the power of 'thys mightti ston'. 'This Mighty Stone'
is undoubtedly of the same tradition as 'Titan Magnesia', and yet it
explores the theoretical premises of alchemy in a way that the more
widely circulated poem does not. It focuses on how God created
the universe and how the alchemist can take part in that creation
through a knowledge of his works.

Not only is the stone 'send owt of paradice' (line 18) in 'This
Mighty Stone', but knowledge about this stone was sent directly
from God.[45] At the end of the poem, the author prays to God to

---

[44] The concept of gold or silver being the 'end' of metals is linked to the
idea of gold and silver being 'perfect' metals. In Latin *perficio* means 'I
finish' or 'I perfect'. The past participle of *perficio* is *perfectus*. Gold or
silver were the *perfect* or *perfected* metals because they were the finished
product of Nature's creation of metals.

[45] The relationship between the philosophers' stone and paradise is a
long-standing alchemical tradition, see Roger Bacon's understanding of
paradisal alchemy in the *Opus majus*: 'Corpus autem Adae non habuit
elementa in plena aequalitate, et ideo fuerunt in eo actio et passio ele-
mentorum contrariorum, et per consequens deperditio, et ideo indiguit
nutrimento. Et propter hoc fuit ei praeceptum, ut non comederet de
fructu vitae. Sed quia elementa in eo fuerunt prope aequalitatem, ideo
modica fuit in eo deperditio; et propter hoc fuit aptus ad immortalitatem
quam posset consequi, si fructum ligni vitae semper comedisset. Hic
enim fructus aestimatur habere elementa prope aequalitatem; et ideo
potuit continuare incorruptionem in Adam, quod factum fuisset, si non
peccasset' (The body of Adam did not possess elements in full equality,
and therefore the contrary elements in him acted and were acted on, and
consequently there was waste, and he required nourishment. For this
reason, he was commanded not to eat of the fruit of life. But since the

send him 'parte of thys secrete / And of that heuen þat ys so sweet' (line 22). Heaven and the secrets concerning the philosophers' stone are requested in the same breath. By describing God's creation of the universe in alchemical terms, 'This Mighty Stone' sets alchemy within a theological framework. There is an order to the created universe, it says: God made angels and heaven first, then the planets, then man and woman, then beasts, then birds, then the fish, then minerals. Within this general order, each lives 'in hys kynd' (line 8), 'sum of astate and oþer in hyre degre' (line 6). The philosophers' stone gives an alchemist control over this order. As the author describes how the stone gives the alchemist power to 'encress' and 'to mak a nend' of minerals, he suggests that, at least within the realm of minerals, things can move up the hierarchical scale. Having mentioned the different orders and estates of mankind, there is an implication that, as the philosophers' stone brings man and woman under the control of the alchemist, perhaps it can even increase the value or social worth of people. 'This Mighty Stone' is a poem that lays bare alchemy's most alluring promise: that a successful alchemist will have ultimate power over creation.

 'Fourteen Hests' follows immediately after 'This Mighty Stone'.[46] With 'This Mighty Stone' having described the power of the philosophers' stone, 'Fourteen Hests' lists the prerequisites an alchemist must have in order to acquire it:

> Iyfe þow wolt thys werk be gynn,
> Þan schreuy the clene of alle thy seyne;
> Contryte in hert wyth all thy þowght;
> And euer þenke on hym þat the derly bowght;
> Satisfaction þow make wyth all thy mygt,   5
> Þan thre fayre flowres þou hast on syght.
> Ryght nedeth the more to thy conklesion,

---

elements in him approached equality, there was very little waste in him; and hence he was fit for immortality, which he could have secured if he had eaten always of the fruit of the tree of life. For this fruit is thought to have elements approaching equality; and therefore it was able to continue incorruption [*sic*] in Adam, which would have happened if he had not sinned; Bacon, *Opus majus*, p. 212, trans. pp. 624–5).

46 *MED*, 'hĕst(e n.(1)' sense 1. (a): 'A command, order, bidding, instruction, admonition.'

Take þou good hede nowe to thys lessen:
Þow most haue grase, nature, and resen;
Spekelatyfe and connyng wyth good condicion.   10
Ryght þou most haue more now here to:
Experience wyth practik, prudent all so,
Pacient þat thou be, and holy in lyfyng.
Þenke þou on thys in thy begynnyng,
Thys fowrtyn hestys, as I the saye.   15
Euer kepe thow man, both night and daye,
Of thy deseyre þou mayst not mysse,
And alle so of heuen, þat sweet bless. (folio 75v)

The poem mentions nothing about gold or material desires, focus-
sing solely on moral and intellectual qualities. The reward for these
fourteen qualities is the fulfilment of the alchemist's 'deseyre' and
the sweet bliss 'of heuen'. Just as with 'This Mighty Stone', the aims
of alchemy go beyond the transmutation of metals and the prolon-
gation of life.

The 'fowrtyn hestys' that the author of the poem requires of his
alchemical initiate are both spiritual and intellectual:

1. To confess and be absolved of sins

2. To be contrite of heart

3. To think on Christ

4. To have grace

5. To have knowledge of nature

6. To have good reasoning

7. To have good theoretical knowledge ('spekelatyfe')[47]

8. To have a good scholarly education ('connyng')[48]

9. To have good means ('condicion')[49]

10. To be able to learn from experience or experiments

11. To be practically capable

12. To be prudent

---

[47] *MED*, 'speculatīf n.', sense 1: 'Theoretical knowledge as opposed to prac-
tice or to practical knowledge.'

[48] *MED*, 'cŏnning ppl.', sense 2: 'Possessing knowledge; learned, erudite,
expert, competent; experienced, wise.'

[49] *MED*, 'condiciŏun n.', sense 1 (a): 'A situation or state; circumstances of life.'

13. To be patient

14. To be holy in living

As the first three 'hestys' spell out, a good alchemist must be a good Christian; the philosophers' stone cannot be attained without Christ's blessing. This sentiment is continued as the author begins to describe the numerous systems of knowledge required to be a successful alchemist: as well as reason and a knowledge of nature, the alchemist must have the 'grase' of God. This is a notion that is commonplace in the history of alchemy and one that is reiterated by Thomas Norton, for example, throughout his *Ordinal of Alchemy*.[50] The grace of God is just as important as any of the forms of knowledge that 'Fourteen Hests' demands its readers to devour omnivorously. This poem suggests that true alchemists acquire knowledge in a way that is superior to those who do not follow all of these biddings. It is a reminder that alchemists were just as interested in the idea of knowledge as they were in the knowledge of alchemy itself. 'Fourteen Hests' is a methodology rather than a curriculum, teaching its reader how to achieve both their physical and spiritual desires. As its first line suggests, it is addressed to those who 'wolt thys werk be gynn', those who are at the foothills of their alchemical expeditions. Both 'Fourteen Hests' and 'This Mighty Stone' broadcast the greatness of alchemy. Neither contains much practical alchemical information, instead they seem to promote alchemy to knowledge-seekers who yearn to take control of God's creation.

The significance of these poems being written in red ink is not easy to glean. There are six other entries in Harley 2407 that are written fully in red ink, all distinct in style and content. Red ink is used sporadically throughout the manuscript to write out quotations from Latin alchemical texts that are embedded in Middle English prose.[51] It is also used for writing in diagrams, to demonstrate rhyming couplets, and occasionally to write an *explicit* or the words 'deo

---

50 Norton, *Ordinal*, lines 254–5, 'And forasmuch that no man may hir fynde / But only bi grace, she is holi of hir kynde'; ibid. lines 3072–4, 'Where to atteyne can nothir pope ne kynge / Bi theire honours, ne by theire grete councell, / But only bi vertue & grace, as autors tell.'

51 Spaces are left, which the rubricator then fills on folios 19r, 24v, 25r, 26v, 28v, 58r, 101v, 102r, and 102v.

gracias' at the end of entries.[52] There seem to be two distinct red hands, one that is a slightly sharper version of the manuscript's main cursive hand and one that is more similar to a gothic quadrata script with flourishes and filials at the tops, bottoms, and shoulders of letter forms. Sometimes both hands are present within the same text, for example the Latin quotations in 'The Virtue of Our Stone' tend to be in the less formal style, however on folio 24v, the quadrata hand is used to quote the words of Morienus.[53] The other texts that are written in red are: two conceit-poems, which will be discussed below; the original Latin of an interlinear translation of an alchemical poem called the 'Gemma salutaris', variously attributed to al-Rāzī, Hermes Trismegistus, or Merlin;[54] John Dastin's 'Desiderabile desideratum', a Latin prose tract; a list of alchemical procedures; and a Middle English prose tract called 'The Secrets of the Philosopher'.[55] Apart from a vague correlation with Latin, the only definite conclusion that can be drawn about the use of red ink, including that which is found on the manuscript's illustrations, is that it draws a reader's attention; it is a visual marker of the importance of certain phrases or passages. It is therefore intriguing that an extended Middle English prose treatise would be written in red ink at the beginning of the manuscript over seventeen folio pages. What is more intriguing is that, like the red poems, 'The Secrets of the Philosopher' contains little practical information.[56]

[52] Apart from the gnomic poems and 'Titan Magnesia', all of the manuscript's poems have lines in red ink demarcating rhyming couplets. For the *explicit* (and a 'deo gracias'), see f. 31v. For a large 'deo gracias', see f. 64v. Rubricated text is sometimes surrounded by the letter 'I', which written between four or six times to form a sort of box around the word or words; this happens especially in diagrams and around the words 'deo gracias'.

[53] Folio 24v.

[54] Singer lists twenty-two manuscripts containing this popular Latin poem. Singer, *Catalogue*, pp. 514–21.

[55] Incipit: 'Broþers ȝe schall undere stond…' (folios 8r–16r). Not to be confused with 'The Secrets of Philosophy'. For the title, see folio 9v: 'dyre chylde y schall tel more þe revilcioun þat com out of heuen, the wych ys y called the secretys of the phylosofyr, y schal the tel her after and how meny blesset namys hyt hath'.

[56] The margins of 'The Secrets of the Philosopher' contains little evidence of contemporary alchemists wrestling with the intricacies of practical

'The Secrets of the Philosopher' discusses the weight of author-
ities that supposedly endorse alchemy (including Socrates, Virgil,
and King Arthur (folios 8r–v)), the various names for the phil-
osophers' stone, the alchemical imperative to follow the 'hestys'
(folio 9v) of God, and, most vehemently, the dangers of pursuing
alchemy for material gain. Sharing language and scope with both
'This Mighty Stone' and 'Fourteen Hests', this prose tract presents
alchemy as a spiritual endeavour. The author argues that alchemists
should have their eyes set firmly on heavenly things in their pursuit
of the philosophers' stone. During an extended and, at times, incan-
tatory discussion of the names of the philosophers' stone, the author
explains that although an ancient term for the philosophers' stone
was the microcosm, or the 'lesser world', it is nowadays known as 'the
litel heven and the gret worlde' (folio 14r). His point is that ancient
alchemists did not care for worldly things, hence their desire-object
was the 'lesser world', whereas nowadays alchemists care only for
worldly profit, diminishing their love of heaven, hence they yearn
for 'the litel heven and the gret worlde'. The author then inhabits the
voice one of these worldly alchemists, pretending to advertise to the
reader the 'worldly plesancs of all maner of thy flechcs' (folio 14v)
through the promises of alchemy. He continues his mock tempta-
tion with bastardised deference to the Bible: 'hyt ys a gret wonder
to se a Ryght man com to heven as for to se a chamyl ben drawe
thorowe a neldes I' (folio 15r). A righteous man, he says, finds it hard
to get into heaven; what you need is money to get through the eye of
the needle. With this blatant reversing of Jesus's parable, the author
seeks to emphasise the sinfulness of a materialistic alchemy.[57] He
shares with the author of 'Fourteen Hests' the belief that an alche-
mist must start his alchemical journey with his mind set on God and
knowledge alone.

---

alchemy. John Dee does pick out words and phrases for the philosophers'
stone that he copies into the margins, but there is only one contem-
porary note on folio 14r that wrestles with a mention of the wedding
between a red man and a white woman.

[57] Matthew 19:24, 'And again I say to you: It is easier for a camel to pass
through the eye of a needle, than for a rich man to enter the kingdom of
heaven.' See also, Mark 10:25 and Luke 18:25.

Shedding his role of a corrupt alchemist, the author of 'The Secrets of the Philosopher' argues that a true alchemist makes a little world and a great heaven by loving Christ: 'yyfe he [the alchemist] have more love to cryst Jesus, and to that glories conynge […] then he maketh ther to hym a lytel world and gret heuen' (folio 15r). Anyone who possesses the philosophers' stone has a choice:

> He that hath the con*clesi*en of thys ston, hey maye chese were he wol haue the gret worlde or the gret heuen or the litel world or þe litel heuen. (folio 15r)

An alchemist cannot have both the great world and the great heaven; he cannot think highly of worldly and heavenly riches at the same time. If he believes that he can have both, then what he believes to be heavenly is in fact infernal:

> A man maye don that he maye haue boþe the gret worlde and allso þe gret heuen and so he maye do þat he schall haue boþe the gret worlde and the gret helle ther to abyde for eue*r* more wythout ende. (folio 15v)

'The Secrets of the Philosopher' provides a framework though which to read the theoretical poems of Harley 2407. The author suggests that the goal of alchemy is not to transmute metals into gold or to increase one's wealth, but rather to understand and to worship God effectively. The treatise ends, like 'Fourteen Hests', with the author telling his reader that if he follows his instructions, he will be able to taste 'of the bless of heuen' and to achieve his 'desyre' (folio 16r). The treatise also begins, like 'This Mighty Stone', by describing how God created 'all maner a thyng to grou in hys kynde' (folio 8r). It is not only the red ink that links this prose piece with the theoretical poems discussed above. These works introduce a fundamental paradox that is found in a lot of alchemical writing: alchemists should shun the allure of worldly riches whilst pursuing a doctrine that teaches how to transmute base metals into gold. The majority of recipes, poems, and prose treatises in Harley 2407 describe how to make precious metals or how to make the philosophers' stone, which can transmute base metals into precious metals. Noble alchemy, however, cares not for worldly riches. 'This Mighty Stone', 'Fourteen Hests', and 'The Secrets of the Philosopher' make alchemy seem like something theologically significant. However, further than the ability to fulfil one's

desire and to achieve the bliss of heaven, the specifics of what the art of alchemy actually does remain unclear.

These works, written in the rich red of mercuric sulphide (vermillion) or lead oxide (minium), advertise alchemy. If we assume that this red was created through alchemical procedures, then even the very ink advertises the greatness of alchemical knowledge. 'This Mighty Stone' summarises and elucidates the alchemical promise as presented in 'Titan Magnesia', paying particularly close attention to how the alchemist takes part in the hierarchy of creation. 'Fourteen Hests' explicitly addresses those who are thinking about beginning alchemical study. Both of these poems, together with 'The Secrets of the Philosopher', suggest that alchemy is more than making oneself rich. And yet, Harley 2407 is a manuscript that ostensibly teaches its readers how to perform operations that will make them rich. Alchemists had grand spiritual ideals and yet were yoked to the material. The theoretical poems epitomise alchemy's grand ideals. They suggest that the alchemist's goal is to learn about God and his world. This learning, the poems suggest, can bring an individual closer to God and bring the natural world under his control. If this learning makes the alchemist rich in the process, then so be it.

Conceit-Poems

Alchemical conceit-poems liken aspects of alchemy to one central object, event, or idea.[58] Through the use of extended metaphor, they establish links between the art of alchemy and whatever concept the art is being likened to.[59] The first conceit-poem of Harley 2407

[58] See 'conceit', in *The Penguin Dictionary of Literary Terms and Literary Theory*, ed. J. A. Cuddon (London: Penguin, 1999), pp. 165–71.

[59] William Newman and Lawrence Principe suggest that alchemical metaphors only worked in one direction. They suggest that theological doctrine is used to explain alchemy, but that theological doctrine is not in turn tainted with alchemical signification. Newman and Principe, 'Some Problems', pp. 388–400. Tara Nummedal, on the other hand, admits that an alchemist's understanding of God and of the natural world is likely to have been shaped by alchemical metaphors. Tara Nummedal, 'Alchemy and Religion in Christian Europe', *Ambix* 60 (2013), pp. 311–22. For the argument that all metaphors work in two directions, see George Lakoff

takes as its inspiration one of the few non-alchemical entries of the manuscript. Folio 5v contains a botanical description of the medicinal properties of 'an erbe þat men cal lunarie', most likely referring to the honesty plant (*Lunaria annua*) with its moon-shaped seed pods rather than the flowerless moonwort (*Botrychium lunaria*) with its half-moon-shaped leaves.[60] On folio 7r, the same hand writes the poem 'Lunary'. The poem is 43-lines long and, ostensibly, also discusses the curative powers of 'lunaryrie'. Towards the beginning of the poem, the poet explains how this plant receives its power from the sun:

> Of sol, the sonne, he taketh hys lyght.
> He ys the fader, to croppe and rote,
> Wyth fragrant flaueris, that ben sote,
> Flowrys to bere in that stede;
> Swm ben whyte, and swm ben red.
> Hys lewys grwyth both day and nyght,
> Like þe ferment that ys so bryght. (folio 7r)

This passage does not seem particularly alchemical. Unsurprisingly, the honesty, being a flowering plant, does take light from the sun in order to photosynthesise, has flowers, and has leaves that grow. However, there is a hint that this is an alchemical poem from the mention of the 'ferment', which in alchemical terms is a sort of cat-alyst.[61] Read through alchemical eyes, the above passage takes on further signification. The reference to 'sol' along with the colours red and white prick the ears of the alchemical readers. The author must be referring to gold, or mercury, or sulphur, or the white stone, or the red stone, or whatever alchemical substance the reader believes is of particular importance. Evidence that the author is pandering to his alchemical readership in this way is in the fact that the versifier has

---

and Mark Johnson, *Metaphors We Live By* (Chicago, IL: University of Chicago Press, 1980).

[60] Whilst Linda Voigts suggests the text could refer to either, the mention of flowers rules out moonwort. See Linda Voigts, 'Plants and Planets: Linking the Vegetable with the Celestial in Late Medieval Texts', in Peter Dendle and Alain Touwaide (eds), *Health and Healing from the Medieval Garden* (Woodbridge: The Boydell Press, 2008), pp. 41–5.

[61] The term can be found in 'Verses upon the Elixir', line 97. See Timmermann, *Verse and Transmutation*, p. 223. George Ripley also discusses the ferment at length. Ripley, *Compound*, pp. 69–73.

changed the colour of the plant's flowers from 'ʒelow' (folio 5v) as in the herbal to white and red. He inserts words that pique the interest of the busy alchemical mind.

Later in the poem, the author explicitly differentiates between common honesty plants and 'owre sweʒt lunayre'. As mentioned above, alchemists often distinguished between common mercury and 'owre mercury', sulphur and 'sulphur of the philosophers', gold and 'true gold'.[62] By doing so, alchemists created a plane of language that claimed to sit above that of the general populace. The use of the word 'owre' not only suggested ownership of a separate and better understanding of words, but it also invited whoever was reading to join in that society of higher understanding. Alchemists asked their readers to see words anew. They asked them to reinterpret common words in a way that related to alchemy. In a similar way, the poem 'Lunary' asks its reader to understand the honesty plant alchemically. The poet takes a common plant and imbues it with alchemical signification. The herbal passage that precedes 'Lunary' describes how honesty is 'founde be scheperdis', how its leaves are 'rounde as a peny', and how its medicinal properties can protect a man from 'fallyng evyll'. The versified 'Lunary' describes how the plant can only be found by a 'schepeherd in goddis servise' who 'kepeth hys soule clene', how its leaves are like the 'ferment', and how it 'brengyth man to bles'. Only in broad terms does 'Lunary' communicate alchemical information; it is another poem that highlights the spiritual requisites of a successful alchemist whilst also rooting alchemical theory in a non-alchemical object. It expands the metaphorical vocabulary of alchemy, infusing the honesty plant with alchemical signification.

'Three Kings', written in the same red hand as the theoretical poems and 'The Secrets of the Philosopher', associates alchemy with the Trinity, explaining alchemical tenets through theological doctrine:

---

[62] See 'The Virtue of Our Stone': 'Thow shalt understande that the spirite betokenys owre mercury and the sowle sulphur and the body owre sol or owre lune' (Harley 2407, folio 25r); See also Ripley, *Compound*, p. 23: 'To this I answere that *Mercurie* it is I wis, / But not the common called quicksilver by name, / But *mercurye* without which nothing being is'; also, Ripley, *Compound*, pp. 24–5: 'It is our naturall fire most sure, / Our Mercurie, our Sulphur, our tincture pure, / Our soule, our stone.'

I schal yow tel wyth hert mode,
Of þre kynggys þat ben so goud,

And how thaye cam to God al myght,
The wych was ther a swete syuyght.

I figure now howr blesset stone,   5
Fro heven wase sende downd to Salomon,

By and angele boþe goude and stylle,
The whych wase þan Crysstis wylle.

The persent of hem in Bedlam þan,
To Cryst brwght aurum, tus, & meram,   10

Owre sol and sulphir wyth hys mercuri,
Bothe bodi and soule wyth oure luneyre.

Aurum betokeneth her owre bodi than,
The whych was brwght to God and man;

And tus alle so owre soule of lyfe;   15
Wyth merum, owre mercurye, þat ys hys wyfe.

Her bethe þre namys fayre and good
And alle thaye ben but on in mode.

Lyke as the trenite ys but on,
Ryght so conclude the philosofirs ston.   20

Þow mayst a se her now in syght,
Off owre stone figuriet a right.

How sende he wase out of heven,
By a nagele wyth mylde stefyn,

And by thys fygure þow mayst se   25
Þat hyt ys lyke to personis thre.

To Fader and Sonne and holi Gost,
The wych ys þan and mytis most;

Into hys blyse now come wee,
Amen goud Lord for cheyte.   30
    (folios 17r–v)

The poet claims that King Solomon, synonymous with wisdom, first received knowledge about the philosophers' stone from an angel.[63] The central conceit of this poem likens this alchemical origin myth to Christ's nativity and, in particular, the gifts of the Magi. Gold, frankincense, and myrrh become 'owre sol and sulphir wyth hys mercuri' (line 11) and simultaneously 'bodi and soule wyth oure luneyre' (line 12). As in so many poems of Harley 2407, there is an overabundance of signification. The author of 'Three Kings' also incorporates other Harley 2407 texts into his description of the philosophers' stone. Not only does he mention 'luneyre', but he also presents a similar relationship between sun/gold/body and sulphur/soul, as had been presented in 'The Virtue of Our Stone'. He also refers to mercury as the 'wyfe' of 'tus' (frankincense, signifying sulphur), recalling the marital relationships of 'On Mercury'. Rather than explaining these other texts and the nature of the philosophers' stone, 'Three Kings' adds to Harley 2407's web of tangled significations.

The most striking feature of 'Three Kings' is its association between the philosophers' stone and the Trinity. Having described the three gifts that the Magi gave to Christ and everything that these gifts signify, the author states that he mentioned 'þre namys fayre and good / And alle thaye ben but on in mode' (lines 17–18). These three gifts, gold, frankincense, and myrrh, which are also gold, sulphur, and mercury, are all 'but on in mode'. They are like the Trinity in that they are separate entities and yet also one. 'Mode' is a difficult word to translate. It suggests 'mind', 'feelings', 'character', 'personality', 'appearance', 'behaviour', and 'desire' amongst other things.[64] These substances are different, but they are also somehow the same. The notoriously complex idea of the Trinity is the only way to explain this inexplicable theory of matter. The Trinity consists of Father, Son, and Holy Ghost. These entities are all God, but they are not each other. The poem carries this logic over to sulphur, gold, and mercury, which are not each other but are the philosophers' stone. The correspondences between Father and sulphur as soul, Son and gold as body, and Holy Ghost and mercury as spirit increase the effectiveness of the likeness between the Trinity and philosophers' stone. Through this likeness, alchemy becomes more theologically significant.

---

63 See Ibn Umail, *Tabula chemica*, p. 180.
64 *MED*, 'mōd (n.)'.

Fig. 3. Representation of the Trinity, depicting the sun, a reclining Jesus, a dove and the Shield of the Trinity amongst windy clouds, from an early sixteenth-century English alchemical manuscript; London, British Library, MS Sloane 1171, folio 4r.

Although it is only a simile used to explain the idea of a three-in-one object, the association between the philosophers' stone and the Trinity is one that recurs in the literature of alchemy.[65] 'This Mighty Stone' had suggested that the philosophers' stone has the ability to alter God's creation. 'Three Kings' suggests that this stone can only be understood in divine terms. The arrival of wise eastern gentiles at Christ's birth signified the world's recognition of Christ's godliness.[66] Whilst the shepherds demonstrated that Christ came to the lowly, the Magi signified that he also came to the wise and the powerful. Epiphany symbolised the confluence of worldly wisdom and divine truth. 'Three Kings' suggests that understanding the philosophers' stone is like understanding God through Christ. The poem goes beyond its initial conceit, likening alchemical ingredients to gold, frankincense, and myrrh, to a much broader conceit, likening alchemical wisdom to divine truth.

The association between the philosophers' stone and the Trinity is one that lasts in the history of alchemy. On folio 4r of the early sixteenth-century manuscript, BL, MS Sloane 117, is a large full-page illustration depicting the Trinity (Fig. 3). The image contains a picture of the sun with the Tetragrammaton written twice inside it, an image of Christ reclining, a dove accompanied by a Hebrew word for the Holy Spirit, the Hebrew for 'the spirit of the Almighty', and the Shield of the Trinity amongst windy clouds. The illustration celebrates the many names and depictions of God: it has three different Hebrew phrases for God, three different visual representations of God, and a diagram explaining the concept of the three aspects of God in the Trinity.[67] All entries of Sloane 1171 are alchemical and so it is hard not to read alchemical signification into this arresting image right at the manuscript's beginning. The concept of many names for one creative power was an attractive concept for alchemists and this association between the philosophers' stone and the Trinity lasted. The Shield of the Trinity, or *scutum fidei*, that appears

[65] The association between the philosophers' stone and God was central to Carl Jung's alchemical theories. Jung, *Psychology and Alchemy*, pp. 345–431.

[66] See Dimitris J. Kyrtatas, 'The Meaning of Christian Epiphany', *Illinois Classical Studies* 29 (2004), p. 207.

[67] With thanks to Amos Paran for help with the translation of the Hebrew.

on the illustration of Sloane 1171 features the words 'pater' (Father), 'filius' (Son), and 'spiritus' (Spirit) written at three corners. These words are connected by the words 'non est' (is not). In other words, the Father is not the Son, who is not the Spirit, who is not the Father. In the middle of the shield the word 'De*us*' (God'), which is connected to each other word by the word 'est' (is). In this way, all of the above words are God but they are not each other. This shield, which has a history that goes back at least to the thirteenth century, is adopted by alchemists.[68] On folio 1v of a manuscript dated to 1580, a similar shield is depicted. However, instead of the different names of God, this shield has the words 'sal' (salt), 'sulphur', and 'vitriolum' (vitriol) connected by the words 'non est' (Fig. 4).[69] 'Ignis' (fire) is the word that sits in the middle of the shield. Salt is not sulphur, which is not vitriol, which is not salt. All of these substances are, nonetheless, fire. This is obviously a different conception of alchemy from the one proposed by the author of 'Three Kings', who focussed the trinity of gold, mercury, and sulphur rather than salt, sulphur, and vitriol. And yet the idea that the three most important alchemical substances are like the Trinity is the same. Once again, we encounter this idea that what the alchemists yearned for was knowledge of the divine. Although their endeavours were based on material gain, the literature that they produced suggested otherwise. 'Three Kings' accentuates the high ideals of alchemy as expressed in alchemical literature. The poet does not say that the philosophers' stone is God; he does suggest that the philosophers' stone can only be truly understood by one who truly understands God through the Trinity.

The final conceit-poem of Harley 2407 is very short indeed. It consists of four rhyming couplets that introduce a four-page diagram, the beginning of which is reproduced in Fig. 5. I have called this a conceit-poem because it establishes an idea that the philosophers' stone is like a 'petegreu', a family-tree:[70]

68 For more early examples of the *scutum fidei*, see Michael Evans, 'An Illustrated Fragment of Peraldus's *Summa* of Vice: Harleian MS 3244', *Journal of the Warburg and Courtauld Institutes* 45 (1982), appendix, pp. 3–5.

69 BL, MS Sloane 3580 A, folio 1v.

70 *MED*, 'pĕdegru(e (n.)'.
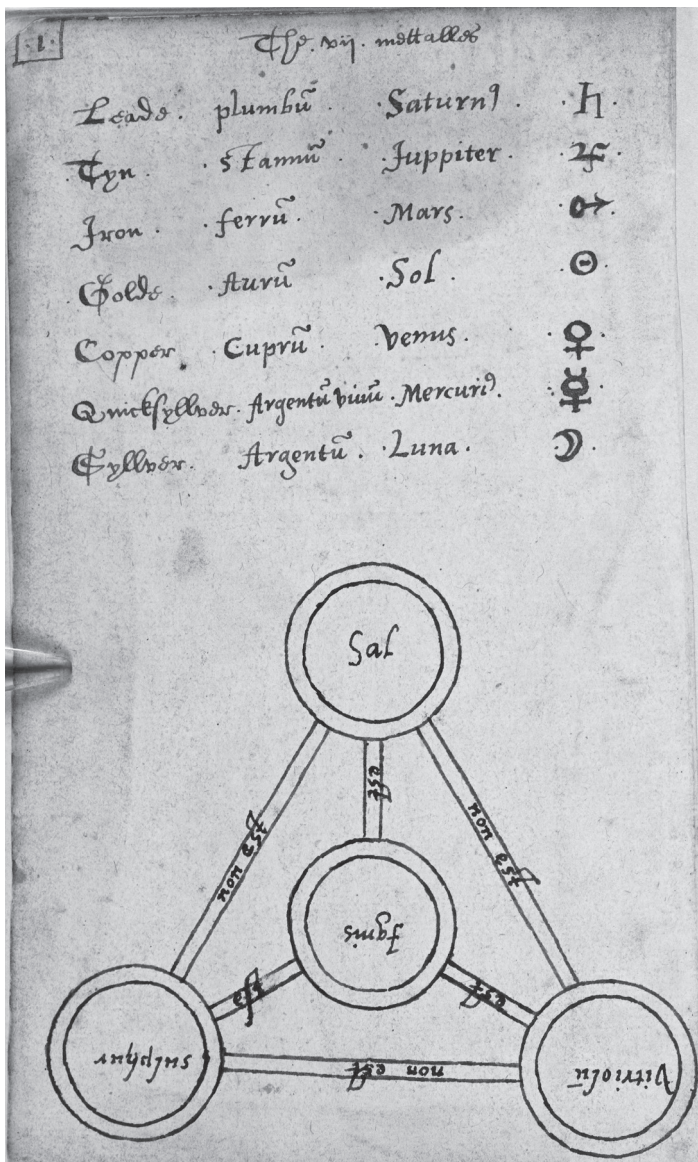
Fig. 4. An alchemical Shield of the Trinity, depicting sulphur, salt and vitriol as being the constituent parts of fire, from an English alchemical manuscript compiled by Thomas Potter (1580); London, British Library, MS Sloane 3580 A, folio 1v.

Her ys the rote of philosophi,
Wyth hys stalke, leuis, and p*ro*geni;

The petegreu welle y sete
In hyr kynd as natur byt.

Vnderstand ryght wel thys   5
And of the stone thou schal not mys.

Thenke thou god of thys syght
Wyth devote prayeris day and nyght. (folio 54v)

That which follows 'The Root of Philosophy' is a complex web of
words connected to one another through rows and columns. In
declaring that 'natur' has established this 'petegreu' 'The Root of
Philosophy' goes beyond conceit. The author claims that the intricate
'petegreu' of likenesses does not exist in the author's or the illustra-
tor's mind alone; these connections exist in nature. The author does
not use non-alchemical objects or concepts to explain alchemical
ideas, as the other conceit-poems do, but rather emphasises that the
alchemical and the non-alchemical are inextricably linked. The third
couplet of the poem introduces an idea that we have encountered
before: if a reader properly understands what the author is trying to
say, then he will possess the philosophers' stone.

   At the top of the diagram itself is written the phrase 'lapis phil-
osophor*um* e*st* tri*us* et un*us*' (the philosophers' stone is three and
one), the triune nature of the stone reminiscent of the Trinity in
'Three Kings'. Below this phrase is a large circle containing the letter
'G' alongside the phrase 'un*us* [*sic*] rem' (the one thing). To the left of
this large circle is depicted the sun and to the right the moon. Con-
nected to the large circle representing 'un*us* rem' are three links that
loop around three smaller circles, which in turn are linked to another
three circles, which in turn are linked to another three circles, and
so on. In each of these circles is written a word so that the diagram
reveals rows of linked circles containing different words. One row
reads 'genitor – genit*us* – p*re*cedens' ('the creator – the created – that
which came before'), the row below it has 'aer – t*er*ra – aqua' ('air –
earth – water'), and then 'a*ni*m*a* – corp*us* – sp*iritus*' ('soul – body –
spirit'). Each of these sets of three are linked to the sets that precede
and follow them. Elsewhere there is 'gallina – bubo – aq*u*ila' (chicken –
owl – eagle), then 'rex – uxor – genit*us*' ('king – wife – child'), then
'Ada*m* – Eva – Azoc' ('Adam – Eve – Azoth'). Eventually, the stalks of
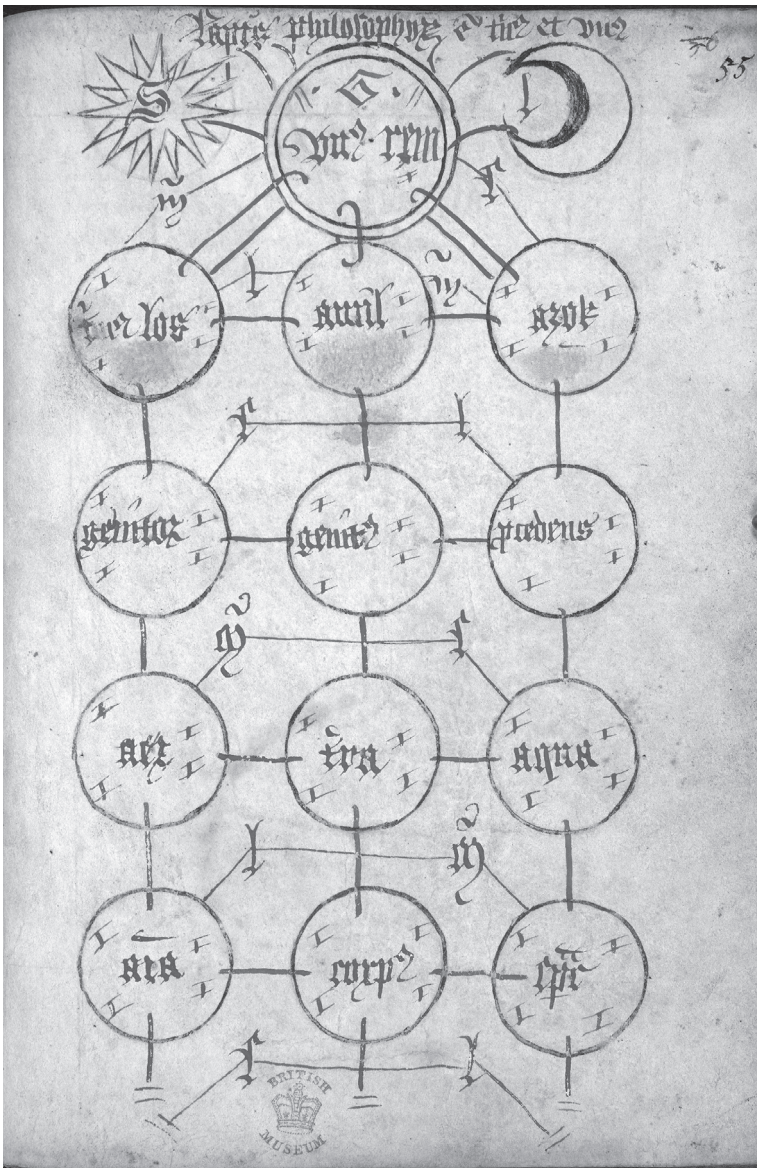
Fig. 5. An alchemical 'petegrue' or family-tree, from an English alchemical miscellany of the late fifteenth century; London, British Library, MS Harley 2407, folio 55r.

the alchemical family-tree converge on a circle containing the word
'pynguedo' (fullness) and the four elements. The diagram coheres
with some of the poems and prose passages in Harley 2407 as it
associates air/earth/water with soul/body/spirit and Father/Son/
Holy Spirit ('genitor – genit*us* – p*re*cedens'). How then these like-
nesses relate to chickens, owls, and eagles is anybody's guess. On one
row, Adam and Eve are placed next to 'Azoc', another word for mer-
cury.[71] Some rows have four or five circles rather than three. Words
often repeat across rows and columns. It is not easy to see a cohesive
pattern throughout the four-page diagram. However, the author of
'The Root of Philosophy' claims that if one can properly understand
the diagram, then one will be able to possess the philosophers' stone,
defined here as the 'fullness' of the four elements. The diagram and
its accompanying poem ask its reader to work out how everything is
connected. Beginning with 'one thing' and, having split into a web
of connected things, ends with one thing, it suggests that there is a
unifying structure in the world that can be understood by whoever
has the eyes to see or the ears to hear. If an alchemist possesses such
eyes and ears, then he will be able to possess the philosophers' stone.

   These conceit-poems, connecting disparate and weighty topics,
are attractive to a curious reader who does not have great alchem-
ical acumen. Apart from 'Lunary', all of the theoretical poems and
the conceit-poems are written in the same red hand. These poems,
along with 'The Secrets of the Philosopher', associate alchemy with
something beyond the laboratory to something more divine in their
alchemical dealings. 'Three Kings' suggests that the philosophers'
stone is similar in some way to Christ. 'The Root of Philosophy'
suggests that the natural world is connected in hidden ways that
only a true alchemist can discover. One does not need to know about
'm*ercu*ry's wyfe hys wyfe' or 'titan magnasia' in order understand that
the revelation of the three-in-one philosophers' stone to the alche-
mist is like the revelation of the Trinity in Christ to the Magi.

   The first entry of Harley 2407 that is written in one of the man-
uscript's main fifteenth-century hands is a unique letter written 'To
my frend' (3v), in which the author shares the secret of alchemy on
the proviso that the recipient 'holden hyt p*ri*vey'. The writer explains
that the stone is but one thing 'in kynde'; that it is two things, 'wat*er*

71 Partington, 'The Chemistry of Rāzī', p. 192.

and erthe'; that it is three things, 'a bodie, spirte and soule'; that it is
four things, 'erth wat*er* eyr*e* and fyre'; and that it is found everywhere.
The author then describes a difficult marriage between a red husband
and a white wife before listing some technical terminology for the
stages in the alchemical process ('put*ri*faccou*n* and […] solicou*n*
and […] distilacon', etc.). Finally, the author warns his anonymous
addressee, saying 'medle thow not of thys crafte tyl thow haue gon
better to scole I praye yow hold thys consayle for my loue' (5r). From
the evidence of the mnemonic gnomic poems added by readers at
a later date, of marginal notation in sixteenth-century hands, of the
hand of John Dee, and of detailed drawings of alchemical apparatus,
we can confidently assume that Harley 2407 was written for and read
by practising alchemists in the early years of its circulation. Perhaps
that which was written in red ink was material that an alchemist could
use to teach any initiates that he had under his tutelage. Alongside the
manuscript's diagrams and figures, these rubricated texts could serve
a didactic function, teaching students the basic theories and morals
needed to begin a life of alchemy. They provide the framework upon
which a budding alchemist must build his *magisterium*. The same
could be said for both the recipe-poems and the gnomic poems, the
mnemonic function of which would only be needed by those who
needed to remember something that they had not yet mastered. The
prevalence of marginal notations and entries in numerous hands bol-
sters the argument for Harley 2407 being read by students of alchemy.
Early in its existence, it was circulated and annotated by those trying
to understand its alchemy. These early readers even created new poems
in response to its linguistic difficulty.

The type of alchemy endorsed by Harley 2407 is mostly that
of transmutation through the philosophers' stone,[72] which is exactly
what is promised to those who have the eyes to see and the ears to
hear. As the manuscript changes hands, its secrets are revealed to
more and more people who were not its intended/implied recipi-
ent. Not only does this increase the excitement associated with this
arcane knowledge, but it also allows for further and further slippage

---

[72] There is mention of iatrochemical (medicinal) alchemy in 'The Virtue of
Our Stone'. See folio 18r: 'Thys tretys is make for the and schal schew
the þe vertu of owre ston*e* & wherof he schulde be made as well for
mannes body as for metallis.'

from the particular conception of alchemy as practised by its com-
piler. Obscurity must be interpreted without a tutelary figure as a
hermeneutic guide. By the time Harley 2407 ends up in the hands of
Elias Ashmole, it is only the alchemical verses that are of importance
because they speak of the universal truths of nature, not because
they can teach him a practical way of transmuting base metal into
gold. The entries are all held together by a shared language which
is then unpicked in different ways by later hands. Like the 'Root of
Philosophy', the manuscript's referents become lodged in a vast web
of signification that incorporates sexual procreation, the Trinity, the
creation of heaven and earth, the sun and the moon, the body, the
soul, the spirit, gold, the philosophers' stone, and the four elements.
Each one of these overdetermined concepts presses in on the rest.
As Harley 2407 circulates, its language is adapted to fit the alchemy
of its reader, adept and novice alike.

Chapter 4

Alchemical Hermeneutics[1]

What happened when alchemists came across something that they did not understand or that did not correlate with alchemy as they envisioned it, a phenomenon experienced by novice and adept alike? 'Practical exegesis', a term coined by Jennifer Rampling, describes the process by which laboratory-based alchemists reinterpreted earlier textual material to fit the reactions and results witnessed in their laboratories, even as alchemical trends changed and developed.[2] When confronted with a contradiction or a seeming fallacy, these alchemists rarely dismissed the authority of their forebears, but rather turned to interpretation. What seemed to be a literal statement, they argued, was to be read metaphorically. In broad terms, this practice, which saw chymical truth as an atemporal constant, unchanged by technical development, required the same interpretative manipulation as it did to unify the Old and the New Testament, or the Bible and Aristotelian philosophy, or Christian virtues and classical tales.[3] It is a hermeneutic that works incredibly hard to reconcile

---

1 The term 'alchemical hermeneutics' has a specific meaning in the world of psychoanalysis and psychology that I wish to avoid. Robert Romanyshyn coined the term in 2007. For Romanyshyn, 'alchemical hermeneutics' is a process that an academic researcher undertakes as they produce a piece of research; it involves acknowledging one's preconceptions in the finished product of research. The researcher speaks about their dreams, personal experiences, desires, and neuroses as they explore the material under research. Whilst Romanyshyn's conception of 'alchemical hermeneutics' does acknowledge the alchemical tendency to insert preconceptions and prejudices into alchemical research, I will not be using the term as Romanyshyn uses it. Romanyshyn, *The Wounded Researcher*, pp. 259–306.

2 Rampling, 'Transmuting Sericon'.

3 See Rita Copeland and Peter T. Struck (eds), *The Cambridge Companion to Allegory* (Cambridge: Cambridge University Press, 2010); Thomas J. Heffernan and Thomas E. Burman (eds), *Scripture and Pluralism:*

seemingly incompatible systems of thought.[4] This chapter explores the exegetical outputs of those who read Middle English alchemical texts without recourse to laboratories or alchemical materials, scholars, aristocrats, courtiers, physicians, goldsmiths, mercers and haberdashers, most of whom lived in a post-Reformation world looking backwards at this secret knowledge.

Augustine and Medieval Hermeneutics

The influence of Augustine of Hippo's *De doctrina christiana* on medieval hermeneutics cannot be overstated. An extensive treatise on how a Christian is expected to interpret not only Scripture, but also the physical universe, this work was the authority on interpretation and understanding throughout the Middle Ages and beyond. In order to explain how alchemical readers understood what they were reading, we must first appreciate some of Augustine's key theories of understanding. According to Augustine, there are 'praecepta quaedam' (certain rules) for interpretation.[5] These rules, if followed correctly, liberate a reader from the need to access divine truth through intermediary exegesis:

> Ut quomodo ille, qui legere novit, alio lectore non indiget, cum codicem invenerit, a quo audiat, quid ibi scriptum sit, sic iste, qui praecepta, quae conamur tradere, acceperit, cum in libris aliquid obscuritatis invenerit, quasdam regulas velut litteras tenens intellectorum alium non requirat, per quem sibi, quod opertum est, retegatur, sed quibusdam vestigiis indagatis ad occultum sensum

---

Reading the Bible in the Religiously Plural Worlds of the Middle Ages and Renaissance, Studies in the History of Christian Traditions 123 (Leiden: Brill, 2002); Jon Whitman, *Allegory: The Dynamics of an Ancient and Medieval Technique* (Oxford: Clarendon Press, 1987).

4 I follow Frank Kermode in defining the word 'hermeneutics' as nothing more or less than 'history of the rules and theory of interpretation'. Frank Kermode, *The Genesis of Secrecy: On the Interpretation of Narrative* (Cambridge, MA: Harvard University Press, 1982), p. vii.

5 Augustine of Hippo, *De doctrina christiana*, ed. and trans. R. P. H. Green (Oxford: Clarendon Press, 1995), pp. 2–3. All further references and translations will be to and from this edition.

sine ullo errore ipse perveniat aut certe in absurditatem pravae
sententiae non incidat. (p. 10)

So the person who knows how to read, on finding a book, does
not require another reader to explain what is written in it; and
in the same way the person who has assimilated the rules that
I am trying to teach, when he finds a difficulty in the text, will
not need another interpreter to reveal what is obscure, because
he comprehends certain rules (the equivalent of letters in this
analogy). By following up various clues he can unerringly arrive
at the hidden meaning for himself or at least avoid falling into
incongruous misconceptions. (p. 11)

These rules are needed because there are certain scriptural truths
that are 'covered' (*operta*) and that need to 'be laid bare' (*retegan-
tur*). 'Hidden meaning' (*occultum sensum*) is strewn throughout the
Bible. Therefore, a reader must be trained to understand what is to be
taken literally and what is to be taken figuratively. *De doctrina chris-
tiana* ensures that readers do not fall into the trap of reading things
incorrectly or, as Augustine puts it, falling into 'the absurdity of a
deformed idea' (*absurditatem pravae sententiae*). Learning Augus-
tine's rules is like learning the alphabet: once a reader has done it,
they can approach new words and new ideas with confidence. In this
way, Augustine gives his readers privileged knowledge. Equipped
with his 'praecepta quaedam', those who have read *De doctrina* have
a much better understanding of the Bible than those who have not.

Some passages of the Bible, Augustine admits, are difficult. Some
might seem straightforward, but in fact have hidden meanings that
must be interpreted correctly. *De doctrina christiana* was written to
help people interpret correctly and not be led astray by their way-
ward understanding:

Sed multis et multiplicibus obscuritatibus et ambiguitatibus
decipiuntur que temere legunt, aliud pro alio sentientes. Qui-
busdam autem locis quid vel falso suspicentur non inveniunt: ita
obscure dicta quaedam densissimam caliginem obducunt. Quod
totum provisum esse divinitus non dubito, ad adomandam labore
sperbiam et intellectum a fastidio renovandum, cui facile investi-
gata plerumque vilescunt. (p. 60)

But casual readers are misled by problems and ambiguities of
many kinds, mistaking one thing for another. In some passages

they find no meaning at all that they can grasp at, even falsely, so thick is the fog created by some obscure phrases. I have no doubt that this is all divinely predetermined, so that pride may be subdued by hard work and intellects which tend to despise things that are easily discovered may be rescued from boredom and reinvigorated. (p. 61)

What is particularly interesting here, in relation to the hermeneutic processes of late medieval and early modern alchemists, is this idea that difficulty was divinely predetermined. According to Augustine, God made truth difficult to attain because he knew that humans would enjoy the process of working things out: 'Quae quanto magis translatis verbis videntur operiri, tanto magis, cum fuerunt aperta, dulcescunt' (Indeed, the more opaque they [certain passages] seem, because of their use of metaphor, the greater the reader's pleasure when the meaning becomes clear; p. 216, trans. p. 217). It is worth noting that the particular book of the Bible through which Augustine illustrates his hermeneutic thesis is the Song of Songs, an erotic poem that requires and has received considerable interpretative wrangling in order to make it exclusively about Christ and his relationship with the Church. Augustine's defence of linguistic obscurity focuses on the pleasure and reward in store for those willing to work hard at it: 'Nunc tamen nemo ambigit et per similitudines libentius quaeque cognosci et cum aliqua difficultate quaesita multo gratius inveniri' (But no-one disputes that it is much more pleasant to learn lessons presented through imagery, and much more rewarding to discover meanings that are won only with difficulty; p. 62, trans. p. 63). Indeed, Augustine's pleasure in picking out hidden meaning in Scripture is manifest in the twelve weighty books he devoted to teasing out contemporary philosophy from the Book of Genesis in *De Genesi ad litteram*. He did not think, as we would today, that he was reading contemporary knowledge *into* Genesis, but rather – like Fulgentius and the author of the *Ovide moralisé* – that he was extracting truth *from* this divine text.[6] The truth was always there, it just had to be interpreted properly.

6   Fulgentius, *Selected Works*, ed. and trans. Robert B. Eno (Washington, DC: Catholic University of America Press, 1997); Cornelis de Boer (ed.), *Ovide moralisé en prose* (Amsterdam: North-Holland, 1954).

Augustine's interpretative eye was not trained solely on the writ-
ten word; the physical universe was also in need of interpretation.
Nature, the whole of the physical universe, was just as much God's
book as the Bible was:

> Ea demum est miserabilis animi servitus, signa pro rebus accipere;
> et supra creaturam corpoream, oculum mentis ad hauriendum
> aeternum lumen levare non posse. (p. 82)

> It is, then, a miserable kind of spiritual slavery to interpret signs
> as things, and to be incapable of raising the mind's eye above the
> physical creation so as to absorb the eternal light. (p. 83)

Augustine exhorts his readers to look beyond the physical universe.
Those who care for mundane matter are misguided, he suggests,
mistaking 'signa pro rebus'. In other words, Augustine argues that
the physical universe is nothing but a sign, like a word or a sentence,
whose main purpose is to tell Christians more about God. To be a
good Christian, one must elevate one's mind above the physical and
literal sense of things with nothing but the 'eternal light' in one's
focus. This process of seeing the literal as something that needs to
be interpreted is fundamental to the alchemical hermeneutic. Just as
Augustine urged his readers to interpret their way to God through
a dismissal of the physical and the literal, so too did the alchemists
urge their readers to interpret their way to the philosophers' stone.

The 'signa' itself, Augustine argued, is to be dismissed; both the
physical world and the literal sense of texts are not to be dwelled
upon. Everything, he posits, points towards a better understanding
of God:

> Est quidam magnus liber ipsa species creaturae: superiorem et
> inferiorem contuere, attende, lege. Non deus, unde eum cogno-
> sceres, de atramento litteras fecit: ante oculos tuos posuit haec
> ipsa quae fecit. Quid quaeris maiorem vocem? Clamat ad te
> caelum et terra: Deus me fecit.[7]

---

[7] Augustine, *Mai CXXVI*, in *Augustini sermones post maurinos reperti*, ed.
G. Morlin (Rome: Vatican Polyglot Press, 1930), p. 360, trans. in Jennifer
Neville, *Representations of the Natural World in Old English Poetry* (Cam-
bridge: Cambridge University Press, 2004), p. 166. For the development
of the concept of the Book of Nature, see Hugh of St Victor, *De tribus
diebus*, ed. Dominic Poirel (Turnhout: Brepols, 2002), p. 9.

> The appearance of Creation is itself a kind of great book: gaze
> upon, attend to, read its higher and lower [parts]. God did not
> make letters in ink from which you might know him: he placed
> before your eyes these things which he made. Why do you ask for
> a greater voice? Heaven and earth cry out to you: God made me.

According to Augustine, there was a hidden, divine truth inscribed
into the universe, which had to be unpicked through interpretation.
This idea of the Book of Nature also features heavily in alchem-
ical literature. However, where Augustine taught his readers to
reach towards the heavenly significance behind the language of
the physical world, alchemists had more worldly ambitions. They
believed that if they could fully understand the language of Nature
then they would be able to recreate her functions. As we have seen
in the poems of Harley 2407, alchemists were often reminded that
they must shun avarice, worldliness, and pride, turning instead to
an unwavering devotion to God and a yearning to understand him
through the universe that he has created. And yet, in the same texts
they are promised worldly power, immense wealth, a long life, and
told how to perform chemical operations. Alchemists gestured
towards Augustinian forms of understanding and yet their desires
were much more practical.

Throughout the history of alchemy, alchemists have been taught
to read beyond the literal.[8] In 400 AD, the alchemist Synesius sug-
gested the secret should not be told to those who have not 'been
initiated' and do not have a 'well-trained mind' (Αὐτὸς γὰρ περὶ τῶν
<μὴ> μεμυημένων καὶ γεγυμνασμένον τὸν νοῦν ἐχόντων εἶπεν).[9]
In practical terms, it was beneficial for chemical procedures – trade
secrets – to be kept within a select group. If more people knew how
to perform the tainting, alloying, and dyeing that early alchemists
performed, then the value of their knowledge would decrease. How-
ever, alchemical language was always overheard by eavesdroppers,
those who read alchemical texts but were neither initiated nor

---

8   For comprehensive studies on the history of secrecy in science, literature,
    and alchemy, see William Eamon, *Science and the Secrets of Nature: Books
    of Secrets in Medieval and Early Modern Culture* (Princeton, NJ: Prince-
    ton University Press, 1994); Principe, *The Secrets of Alchemy*, pp. 1–82.

9   Synesius, *The Philosopher Synesius to Dioscorus*, in *The 'Four Books' of Pseudo-
    Democrituss*, pp. 124–5.

interested in laboratory procedures. In the third-century Byzantine text, *Isis the Prophetess to her Son*, the Greek goddess Isis explains how she exchanged sexual favours with the Hebraic angel Amnaël for the secrets of alchemy on the condition that she tell no one else other than her son, the Egyptian god Horus, the text's addressee.[10] The information that she imparts to her son is meant for him alone; anyone who reads *Isis the Prophetess to her Son*, therefore, trespasses into a divine, promethean realm of knowledge that does not belong to them. Readers of alchemical texts violate the rule of utmost privacy that is consistently reiterated by the very authorities who wrote those secrets down to be read.

The concept of a higher, or better, understanding was endemic amongst alchemical authors. One could not read an alchemical text at face value; there was always something hidden to be gleaned by the attentive reader. We have already seen, in Chapter 1, the tradition of alchemists disparaging foolish readers and flattering those who count themselves among the wise. This tradition deviates, but is not completely separate from, Augustine's vision of the 'eternal light' of divine significance. There is an implicit distinction in Augustine between those who can read the language of God in the universe and those worldly people who mistake the 'signs as things'. Similarly, alchemists perpetuated the idea that there were those who could read beyond the literal to understand alchemical truths and those who simply could not. Sometimes, this dichotomy caused intellectual anxiety on behalf of less educated alchemical readers. In a short, seventeenth-century tract dismissed by William Henry Black, the cataloguer of Elias Ashmole's manuscript collection, as a 'curious but stupid tract',[11] the anonymous author marvels at the idea that alchemical secrets could be hidden anywhere:

---

[10] This myth has its origins in the apocryphal Book of Enoch, in which mankind receives arcane knowledge from fallen angels. 1 Enoch 8:1–9:6. E. Isaac (trans.), '1 (Ethiopic Apocalypse of) Enoch', in *The Old Testament Pseudepigraphia*, ed. James H. Charlesworth (New York: Doubleday, 1984), vol. 1, pp. 5–89. See also, Fraser, 'Zosimos of Panopolis and the Book of Enoch', pp. 125–47; Mertens, 'Une Scène d'initiation alchimique', pp. 3–23.

[11] Black, *A Descriptive, Analytical, and Critical Catalogue*, p. 1116.

> Is it not a marveille (thinke you) that the most secrette greateste
> of all secrettes is euerywheare is to be founde & at all times to
> be had & that it is in euerie man: and yet (without the gifft &
> grace of god doe illuminate their understandinge) not one among
> a million of mankinde shall haue grace to finde it to see it or to
> knowe it: altho he looke upon it dayly or that it beholde him
> hourlie?[12]

This short passage from a wonder-struck alchemical novice could
not capture the alchemical hermeneutic better. The secret of secrets,
the author states, is forever hiding in plain sight and yet it goes
unnoticed even by those who are looking for it. He uses the language
of grace to speak of those to whom the secret is revealed, illustrating
a conflation of divine and alchemical knowledge. After lamenting
that he is not a clerk and therefore less likely to receive this grace
of understanding, the author finds solace from a surprising source:

> And thearfore, as Norton saith, great neede had he to be a clearke
> that woulde perceave this subtill worke: notions standing tho
> I confesse, as the vere truth is indeede that I am not a clearke:
> yet finde I of Chaucer thease words true: that light to manie is
> founde full darke, for be wee lettered or be we not, our conclusion
> cometh all to one effecte: so that thus much I finde by groaping
> at the matter: that nothing staieth a clearke more, then doth the
> barre letter.[13]

Although Thomas Norton had stated that only clerks could truly
understand the secrets of alchemy, he wrote in Middle English. This
confused reader, though he cannot currently understand alchemical
literature, believes that, with enough interpretative determination,
one day he will.

   With reference to the 'barre letter', this post-Reformation
reader/author makes clear that his understanding of alchemical
knowledge is closely entwined with his understanding of religious
knowledge. The fifteenth century in England was riven with vio-
lent disputes between those, like the Wycliffites and the Lollards,
who believed that the New Testament should be translated into
English and those, epitomised by Archbishop Arundel and his

[12] Oxford, BodL, MS Ashmole 1408 (VIII), p. 143.
[13] Ibid., p. 148.

1409 *Constitutions*, who believed that the Bible should not be thus debased.[14] By the time this person was writing, such rigorous faith in the sanctity of Latin had largely dissipated. By deferring to the authority of Chaucer, the author of this 'curious but stupid tract' not only highlights Chaucer's alchemical reputation in the early modern period, but he also stakes a claim for a particularly Middle English education. Even though Chaucer's Yeoman had said that the 'conclusion' of both the lettered and unlettered in alchemy was failure, this author has somehow found solace in the idea that the learned and the unlearned are on the same plane. This anti-clerical self-justification continues as he takes a swipe at clerkly inability to interpret the 'barre latter', or *scriptura sola*.[15] Whereas, the author suggests, Catholic clerics are weighed down by tradition, commentary, and rote-learned exegesis, the Protestant layman, touched by grace, can interpret the Bible's bare words properly. In the context of alchemy, this demonstrates a remarkable interpretative boldness. This alchemical reader rejects the learning of clerks, confident in his unrealised ability to interpret the 'barre letter'. Like Augustine, he believes that there is a truth inscribed into the universe to which all material things point, and yet he rejects the 'praecepta quaedam', the certain rules with which to interpret this language. He is willing to try with the wit he has. Though this lay reader is idiosyncratic in his candour, he is only making explicit that which is implied by other alchemists, particularly those who wrote in English rather than Latin: that, despite the difficulties, he can interpret his way to alchemical knowledge.

---

[14] See Nicholas Watson, 'The Politics of Middle English Writing', in *The Idea of the Vernacular: An Anthology of Middle English Literary Theory, 1280–1520*, ed. Jocelyn Wogan-Browne, Nicholas Watson, Andrew Taylor, and Ruth Evans (Exeter: University of Exeter Press, 1999), pp. 331–53; Nicholas Watson, 'Censorship and Cultural Change in Late-Medieval England: Vernacular Theology, the Oxford Translation Debate, and Arundel's Constitutions of 1409', *Speculum* 70 (1995), pp. 822–64.

[15] Michael Hurley, '"Scriptura Sola": Wyclif and his Critics', *Traditio* 16 (1960), pp. 275–352.

Alchemical Afterlives

The idea that alchemical secrets were potentially hidden just beyond the surface of things was a key component of alchemical hermeneutics. Like the conspiracy theorist, who searches for hidden truths that connect disparate events, people and facts, alchemists constructed vast webs of signification that were invisible to non-alchemical fools. For this reason, authors like Chaucer, Gower and Lydgate received reputations for being alchemists in the centuries after their deaths.[16] These reputations did not, however, emerge from nowhere; what these poets have in common, besides their literary eminence, is the fact that each of them discussed alchemy at least once in their oeuvres. In citing Chaucer as an alchemical authority, our 'curious but stupid' author was not alone: the 'Canon's Yeoman's Tale' often appears in alchemical collections alongside recipes, tracts, and alchemical poems;[17] Chaucer was cited as the author of alchemical recipes;[18] influential alchemical figures like Thomas Norton and Francis Thynne claimed that Chaucer was an alchemical adept;[19] he was even thought to be the alchemical master of an alchemist called Thomas Holcote.[20] In the

[16] Jean de Meun also received an alchemical reputation in the years after his death, but I do not have the space to discuss the alchemical afterlives of *Le Roman de la Rose* in this book.

[17] BL, MSS Sloane 3580 B, folio 184v; Sloane 320, folios 35v–36r; Sloane 1098, folio 17v; Sloane 321, folio 35v, Sloane 1723, folios 35r–43r.

[18] See Gareth W. Dunleavy, 'The Chaucer Ascription in Trinity College, Dublin MS. D.2.8', *Ambix* 13 (1965), pp. 2–21; Robert M. Schuler, 'The Renaissance Chaucer as Alchemist', *Viator* 15 (1984), pp. 305–33; Anke Timmermann, 'New Perspectives on "The Chaucer Ascription in Trinity College, Dublin MS. D.2.8"', *Ambix* 53 (2006), pp. 161–5.

[19] In 1573, Thynne writes an allegorical poem in which he praises the alchemical output of Hermes Trismegistus, Ramon Lull, Roger Bacon, George Ripley, Arnold of Villanova, Geoffrey Chaucer, John Gower, and Thomas Norton. BodL, MS Ashmole 766, folios 85v–86r. Cited in Schuler, 'Renaissance Chaucer', p. 321. David Carlson, 'The Writings and Manuscript Collections of the Elizabethan Alchemist, Antiquary, and Herald, Francis Thynne', *Huntington Library Quarterly* 52 (1989), pp. 203–72; Megan Cook, 'How Francis Thynne Read His Chaucer', *Journal of the Early Book Society* 15 (2012), pp. 215–43.

[20] BL, MS Harley 3528, folio 25r.

two centuries after his death, Chaucer garnered an alchemical reputation that was not confined to a few peripheral figures.[21]

It was less common to see Gower as an alchemical authority. However, one of the most prominent seventeenth-century readers of Middle English alchemy, Elias Ashmole, placed Gower in the 'Register of our Hermetique Philosophers: and one that adopted into the Inheritance of the Mistery, our famous English Poet, Geoffrey Chaucer'.[22] Here is no mere poetical interest in alchemy as evidence for social improvement; Ashmole believed that Gower was Chaucer's alchemical master. Ashmole's evidence for Gower's alchemical expertise is not even drawn from the alchemical section of the *Confessio Amantis*. He saw Gower's alchemical acumen in his telling of the story of the Golden Fleece in book five of the *Confessio*: 'He [Gower] was an eminent Poet, and hath written the story of the Golden Fleece, like an Hermetique Philosopher'.[23] In book five of the *Confessio*, whose tales are structured around the sin of Avarice, Genius tells Amans about the story of Jason and the Golden Fleece. In this telling, before Jason sets sail for the golden fleece, he stays at the court of King Oëtes, who warns him that no man has ever come close to retrieving such a yearned-for object. After falling in love with Jason, Medea, the daughter of the king, tells him that no one can retrieve the golden fleece 'bot if he couthe that [she] can' (unless he knows what she knows; 5, line 3446). She then tells him that Mars has protected the sheep with two fire-breathing oxen and a dragon that never sleeps. In order to overcome these obstacles, Jason must yoke the oxen, pull out the dragon's teeth, plough a field, sow the dragon's teeth, and then watch as the dragon's teeth grow into warriors that fight amongst themselves. As protection from the fire of the oxen and the venom of the dragon, Medea gives Jason a ring in which is set an incomparably valuable 'Ston' (5, line 3562) that is unaffected by water, has the power to quench fire, and can make a man invisible. She also gives him some ointment that makes the anointed impervious to venom and fire, an enchantment to say when he arrives on the island, and finally some superglue ('a maner glu, / The which was of so gret vertu'; 5, lines 3603–4) that can bind

21 Schuler, 'Renaissance Chaucer', pp. 319–20.
22 *TCB*, p. 484.
23 *TCB*, p. 485.

anything. With Medea's instructions dutifully followed, Jason is able to seize the golden fleece. This is not an alchemical allegory.

Through alchemical hermeneutics, however, Ashmole makes it so. With alchemy in mind, it is easy to see how a tale concerned with the difficult acquisition of extraordinary gold can be understood to be an allegory for the acquisition of superlative gold. Medea's statement that it is only with her superior knowledge that Jason can access the fleece smacks of the way in which alchemists repeatedly accentuated the primacy of their personal knowledge. The fiery oxen and the venomous dragon could well have been plucked out of an alchemical recipe, perhaps *Decknamen* for a certain temperature of flame and a certain acid. The powerful stone that Medea gives Jason sounds like the philosophers' stone, whilst the ointments that she provides could symbolise certain preparations of the *prima mate-ria*, represented by Jason himself. Such readings of the myth of the Golden Fleece abound in the seventeenth and eighteenth centuries when the myth of the Golden Fleece became synonymous with alchemy.[24] Ashmole's brazen over-interpretation of Gower's tale epitomises alchemical hermeneutics, which jumps at the slightest suggestion of alchemical signification.

Like Gower and Chaucer, John Lydgate explored the subject of alchemy. The *Secrees of Old Philisoffres*, a verse translation of the *Secretum secretorum* begun by Lydgate and completed by Benedict Burgh, drastically alters the alchemical sections of the original. As discussed in Chapter 2, the *Secretorum secretorum* has a prominent place in the history of alchemy, especially regarding Roger Bacon's conception of *scientia experimentalis*. Where Bacon had included a lengthy alchemical commentary at the moment Aristotle advises Alexander on how to treat the conquered Persians (suggesting a form of alchemical mind-control), Lydgate's opening focuses on the attraction of hidden knowledge. In one of the many prefaces and prologues to the text, Lydgate explains how Aristotle did not speak plainly to Alexander because he wanted to emulate the way in which God and Nature reveal truth to mankind. He compares

---

[24] See Antoine Faivre, *The Golden Fleece and Alchemy* (Albany, NY: State University of New York Press, 1993). Faivre suggests that Philip the Good founded the Order of the Golden Fleece with alchemy in mind. Faivre, *Golden Fleece*, p. 17.

Aristotle's revelation of information to Alexander to a rose because roses are both sweet and thorny, 'And thus in konnyng ther may been a lyknesse' (line 511):

> In herbe & fflour in wryting woord and stoon,
> Ech hath his vertu of god and of nature,
> But the knowyng is hyd fro many Oon,
> And nat declaryd to euery Creature;
> Wherfore he Cast twen Resoun and mesure
> To shape a weye bothe the kyng to plese,
> Somwhat to vncloose and sette his herte at Ese. (lines 512–18)

Suggesting that Aristotle casts between reason and 'mesure', a term suggesting both moderation and the rhythmic patterns of poetry, we can see Lydgate, a particularly self-conscious poet who preaches moderation in the *Fall of Princes*, identifying with this archetypal communicator of hidden things.[25] What follows, alongside a discussion of 'stoonys […] Oon myneral Anothir vegetatyff [and one] Callyd Anymal' (lines 533–4), is a warning that only princes and clerks should 'medle' (line 522) with alchemy:

> Ther is of ryght a greet difference
> Twen a prynces Royal dignite
> And atwen Comouns Rude intelligence,
> To whom nat longith to medle in no degre
> Of konnynges that shuld be kept secre;
> ffor to a kynges famous magnificence,
> And to Clerkys which haue experience. (lines 519–25)

Lydgate wholeheartedly succumbs to the alchemical differentiation between the wise and the foolish; in fact, he takes this alchemical trope a step further by suggesting a fundamental division between royalty and commoners. Whereas alchemists throughout history have drawn attention to the intellectual acumen needed to understand the difficulty of their texts, Lydgate describes an innate 'magnificence' that of itself justifies academic enquiry. Nodding to Chaucer's 'Canon's Yeoman's Tale', in which the Yeoman warned

---

[25] Lydgate makes use of both senses throughout his oeuvre. *MED*, 'mesure, (n.)', senses 8 and 10. See Christina Di Gangi, 'Lydgate's *Mesure*: The *Echecs Amoureux* Tradition and the Theme of the *Fall of Princes*' (PhD dissertation, University of Notre Dame, 2006).

his audience to 'medleth namoore with that art', Lydgate seems to suggest that the Yeoman is too 'lewed' to understand the noble art of alchemy properly. Like other failed alchemists that Lydgate describes, the Yeoman has been defeated by 'fals Erryng' and a 'lak of brayn' (line 570–3). Even Lydgate, it appears, read the 'Canon's Yeoman's Tale' as sympathetic towards 'true' alchemy.

Lydgate does not, however, claim to understand the language of alchemy. He counts himself amongst those who should not 'wryte or medle of so hih materys […] I was nevir noon expert Ioweler, / In suych materys to putte my Sylff in prees / With philosoffres' (lines 548–56). As suggested by his metaphor, likening the revelation of knowledge to a sweet but thorny rose, Lydgate is interested in the linguistics, even the hermeneutics, of alchemy. Alchemy has a rich history of self-conscious theorising about how to disclose information under a veil and it is this attraction to the hidden and the difficult that piques Lydgate's interest:

> Yit be wryting this book doth declare,
> And be Resouns lyst nat for to spare,
> With goldeyn Resouns in taast moost lykerous,
> Thyng per ignotum prevyd per ignocius. (lines 585–8)

Lydgate takes Chaucer's words on the unknown being revealed through more unknown things ('ignotum prevyd per ignocius') and, instead of seeing it as a frustrated complaint against an impotent language system, suggests that there is something sweet in the unknowing. It is therefore surprising that, later in the *Secrees*, Lydgate omits the most nebulous alchemical section of the *Secretum secretorum*, the *Tabula smaragdina* (*Emerald Tablet*) of Hermes Trismegistus. In its place, Lydgate inserts his own interpretation of alchemical lore, which demonstrates a lack of interest in the specifics of alchemy; he does not detail much beyond the need to separate 'Watir from Eyr', 'ffyr from Eyr', and that the stone is a sort of yellowish colour (lines 995–1002). Like Gower and Chaucer before him, Lydgate was interested in the mysteries of alchemy, its ability to simultaneously reveal and conceal, alongside its self-conscious creation of readerships.

Lydgate's sympathy for a strict social and intellectual hierarchy, no doubt pandering to those who patronised his work, is further evinced by his popular fable, 'The Churl and the Bird'. Extant in sixteen manuscripts and five early printed editions, 'The Churl and

the Bird' concerns a man who has ideas above his station.[26] In his aristocratic walled garden, he hears a bird singing beautifully and catches it. Refusing to sing in captivity, the bird offers the churl three pieces of wisdom in exchange for her freedom. These 'thre greete wisdames',[27] that the bird claims are more valuable than 'al the gold' that the churl has in his coffer, are as follows: 'yiff nat of wisdam to hasty credence' (line 197); do not wish for things that are impossible to attain (lines 206–7); and do not grieve over lost treasure (lines 213–15). Upon release, the bird turns back to the churl and mocks him, accusing him of being foolish for having let her go. She claims that she actually had a priceless jewel hidden inside of her, which had the power to make the churl invincible if he had kept hold of it:

> Ther is a ston which callid is iagounce,
> Off old and engendrid withynne my entrayle,
> Which of fyne gold peiseth a gret vnce,
> Citryne of colour, lik garnetes of entaile,
> Which makith men victorious in bataile. (lines 232–6)

Not only will the stone give the owner glory in battle, but it will also protect him from 'povert', giving him 'tresour […] plente and foisoun' (lines 240–1). However, the bird dismissively comments that she wastes her breath trying to teach a churl about the value of such a precious stone:

> I am a fool to telle þe al attonys,
> Or teche a cherl the prys of a precious stonys.
> Men shuld nat put a precious margarite
> As rubies saphires or othir stonys ynde,
> Emeroudes, nor othir perlis whihte
> To fore rude swyn, that love draff of kynde. (lines 251–6)

---

[26] *DIMEV* no. 4420; Alexandra Gillespie, 'The Lydgate Canon in Print from 1476 to 1534', *Journal of the English Book Society* 3 (2000), p. 78; Joel Fredell, 'Alchemical Lydgate', *Studies in Philology* 107 (2010), p. 431.

[27] John Lydgate, 'The Churl and the Bird', in *The Minor Poems of John Lydgate*, ed. Henry MacCracken, EETS, OS 192 (London: Oxford University Press, 1934), vol. 2, lines 159–61. All further references will be to this edition.

Casting the pearls of her wisdom before the swine of the foolish churl, she describes the natural order of things, stating that 'ech þing drawith vn-to his semblable: / Fissh in the see, bestis on the stronde [...] And to a cherl, a mookfork in his honde' (lines 260–4). Upset and angry about this missed opportunity, the churl laments his stupidity and grieves for the lost jewel.

Of course, the bird did not actually have a 'jagounce' inside her; she was merely testing the churl to see if he had learned the three wisdoms she had imparted him: do not believe things too hastily; do not yearn for what you cannot attain; and do not grieve over lost treasure. In each, the churl has failed. The poem ends with a reiteration of the hierarchy of things. The bird uses the same metaphor of the pearls and swine to argue that one cannot teach a foolish person anything. She calls mad those who try to sing 'a fool a masse' (teach fools of God) or who try to 'teche a cherl termys of gentilnesse' (lines 341–3). Just as certain birds have certain songs, and certain fruits have certain tastes, so too do 'folk of eu*er*y age, / Fro whens thei cam, thei taken a tarage [flavour]' (lines 349–50). The overarching moral of the tale is that a churl is a churl, no matter how rich he is or how high his ambition might soar.

This sentiment chimes well with Lydgate's sense of alchemical propriety, which posits that alchemy should be left to princes and prelates. However, despite the powerful 'citryne' stone – references to which can be found in countless magical tales – there is nothing explicitly alchemical about 'The Churl and the Bird'. There is, however, a poem in Harley 2407, exactly the same as 'The Churl and the Bird' in almost every way, that is explicitly alchemical: 'Hermes Bird'. This poem is identical to 'The Churl and the Bird' except for eight additional stanzas, the sole purpose of which is to turn the 'jagounce' of which the bird speaks into the philosophers' stone. In these inserted stanzas the bird claims that she was 'eyred and bred in swete paradyce';[28] she claims that the 'jagowns' goes by many names;[29] she explains how the stone exceeds the value of all other stones; how Alexander the Great conquered the known world through the power of the stone; and how she is called 'the byrde of

---

[28] Harley 2407, folio 83v.
[29] Ibid., folio 84r.

ermes'.[30] These nods to alchemical lore turn the whole poem into an allegory. Rendered such, the bird's wisdoms do in fact become sound pieces of advice for an alchemist: an alchemist must ensure that he does not waste his time following false recipes (not believing everything he hears); he must be realistic about what he can achieve (not desiring what he cannot attain); and he must not be put off by the fortunes that he will inevitably squander (not grieving for lost wealth). There is, nonetheless, something inherently contradictory about reading 'The Churl and the Bird' alchemically. The bird lies about having the stone within her; the 'iagou*n*ce' is feigned. The real treasure in 'The Churl and the Bird' is the information that the bird imparts, not the powerful stone that she pretends is at her core. If anything, 'Hermes Bird', suggesting that fools value material gain over wisdom, warns its readers of the allure of alchemy. The 'iagou*n*ce' – the philosophers' stone – is an illusion. The socially ambitious churl, imitating courtliness with his enclosed garden, desires the wrong thing: material gain. He cannot see that true social improvement comes from learning.

The idea that a true alchemist should rise above the material and the literal in order to understand things better than most is one that we have met throughout this book. Alchemists called for their readers to despise worldly gain whilst promising the secret that would give them worldly gain. The moral of both 'The Churl and the Bird' and 'Hermes Bird' states that 'better is freedam with litel in gladnesse, / Than to be thral in al wordly richesse' (lines 377–8). Ostensibly, 'The Churl and the Bird' tells its reader not to desire after fleeting and illusory worldly riches. However, its narrative also insinuates that the act of not desiring fleeting and illusory riches is a way of separating oneself from churlishness. The churl, like a fish to the sea, belongs to his pitchfork; he cannot escape his churlishness. The bird proves as much by demonstrating his inability to learn her teachings. Therefore, if a churl did want to escape churlishness, all he needed to do was to learn the bird's wisdoms and to avoid covetousness. The inserted alchemical stanzas give this idea an alchemical bent: to be a good alchemist and not a 'Covetous and Ignorant Artist',[31] as Ashmole defines the

---

[30] Ibid., folio 85r. The 'Bird of Hermes' features in the most common variation of the Ripley Scroll. See London, Wellcome Library, MS. 693.

[31] *TCB*, p. 467.

Churl, one needed to listen to wisdom and to scorn material profit. The alchemical paradox, which involves scorning worldly profit to gain worldly profit, reveals itself when Ashmole claims that the 'vertues and properties' of the 'Mercury of the Philosophers' are described parabolically and allusively in 'Hermes Bird', with the Churl's garden symbolising the 'Vessell or Glasse, and the Hedge the furnace'.[32] Despite denigrating the material covetousness of the churl, Ashmole believed that the whole poem could be decoded to reveal material truths about alchemical 'mercury'. 'The Churl and the Bird', like the 'Canon's Yeoman's Tale' and Gower's telling of the Golden Fleece, becomes embroiled in alchemical signification. It was not, as Ashmole suggested, an alchemical allegory and yet, to alchemical minds, it so easily could be. The eight alchemical stanzas of 'Hermes Bird' epitomise alchemical hermeneutics as they creatively reimagine, even rewrite, Lydgate's poem with alchemy in mind.

He that Hath Ears to Hear

Elias Ashmole, a Freemason, Rosicrucian, and founding member of the Royal Society, was a lover of alchemy. Whilst he was an ardent reader, collector, and publisher of alchemical texts, there is little evidence that he actually performed alchemical operations. In 1652, he published the *Theatrum chemicum britannicum*, a collection of alchemical poems written in English that he had himself collated and edited. Taking the grand proclamations of alchemists at their word, Ashmole believed that the rewards awaiting those who could correctly understand the texts of the *Theatrum* were much more universal than the grubbiness of material gain:

> By the true and various use of the Philosophers Prima materia (for there are diversities of Gifts, but the same spirit) the perfection of Liberall Sciences are made known, the whole Wisdome of Nature may be grasped: And (Notwithstanding what has been said, I must further adde) There are yet hid greater things then these, for we have seen but few of his Workes.[33]

---

[32] Ibid.
[33] *TCB*, p. ix.

For Ashmole, the secrets of alchemy were all-encompassing. Through correct interpretation of the texts contained in the *Theatrum*, a reader is promised not only gold or eternal life, but what is more, he is promised omniscience. Here we have a reader who does not claim to be able to understand alchemical texts fully, and yet has a faith in the power they contain that far outstrips their original intention. Ashmole assumes that the alchemy of the ancients (amongst whom he includes medieval writers) must have been about something more than laboratory procedures:

> For they being lovers of Wisdome more then Worldly Wealth, drove at higher and more Excellent Operations: And certainly He to whom the whole Course of Nature lyes open, rejoyceth not so much that he can make Gold and Silver, or the Divells to become Subject to him, as that he sees the Heavens open, the Angells of God Ascending and Descending, and that his own Name is fairely written in the Book of life.[34]

We have here the origins of the Jungian understandings of alchemy that so dominated the twentieth century. Ashmole believed that true alchemy was concerned not with metallic transmutation but with something more divine. He takes the conception of noble alchemy at face value and sees alchemy as a way in which to open up the secrets of nature and of heaven. It was to hide the secrets of heaven from 'Prophane and Vulgar Wits' that alchemists spoke obscurely, Ashmole argues.[35] Using this logic, if one does not have visions of angels when reading alchemical literature, one must be lumbered with a 'Prophane and Vulgar Wit'. Therefore, readers like Ashmole continued to pick apart alchemical texts so that their wits might be elevated through correct interpretation.

    As we have seen, Ashmole set out his rather holistic conception of alchemy in the prologue to the *Theatrum chemicum britannicum*. It is an alchemy that incorporated the manipulation of metals with the knowledge of angels in heaven and the 'perfection of Liberall Sciences'. These tantalising secrets, however, cannot be gleaned by all:

[34] *TCB*, p. vi
[35] Ibid., p. xii

> The subject of this ensuing Worke, is a Philosophical account of that Eminent Secret treasur'd up in the bosome of Nature; which hath been sought for of Many, but found by a Few.[36]

As he elaborates upon this well-worn alchemical trope, he likens the wisdom of the past to a river, which carries light and 'Sophisticall pieces of Learning' on its surface whilst allowing weighty, 'Profound and Misterious' information to sink to the bottom. Most people, he suggests, are happy to pick off the flotsam of shallow learning. Even those who try to sound the depths of learning often fall far short:

> Whence every one Who attempts to dive, cannot easily fetch [pieces of profound information] up: So, that what our Saviour said to his Disciples, may (I hope without offence) be spoken to the Elected Sons of Art: Unto you it is given to know the Mysteries of the kingdome of God; but to others in Parables, that seeing they might not see, and hearing they might not understand.[37]

As his parenthetical aside suggests, Ashmole was clearly aware of the irreverent implications of the comparison he makes between the secrets of alchemy and the teachings of Christ. He compares the 'Elected Sons of Art' – note the lack of definite article – to Christ's disciples, who received the 'Mysteries of the kingdome of God' whilst the multitude was left to flail at the meaning of Christ's parables.

Ashmole was not the first to associate Christ's call to those who have 'ears to hear' with alchemy. It is not hard to see why this mention of privileged divine knowledge might appeal to alchemical authors. In Mark 4, Christ speaks at length both in parables and about parables. The phrase 'he that hath ears to hear, let him hear',[38] occurs twice in Mark 4, slightly altered in the second instance. Mark explores the idea that there are those who can hear the word of Christ and those who cannot. Indeed, the Parable of the Sower, which begins Mark 4, epitomises such a concept: Christ sows his salvific seed on all and yet only those with receptive hearts will harbour his word; some people will not get it. Those who understand the Word will be saved, but those who do not will not be. Christ only explains this signification to his disciples. All that

---

36 Ibid., p. i.
37 Ibid.
38 Mark 4: 9 and 23.

the multitude hear is the parable itself; they do not have privileged access to the parable's meaning. All that the multitude hear is a story concerning a sower who casts his seed in various places: the wayside, stony ground, thorns, and good ground. They do not know the story of salvation, the key to understanding the parable. It is up to them to think their way through the obscure language and arrive at their own, incorrect conclusions.

  After Christ has told the parable and after he has called to the man who 'hath ears' to hear, he speaks to his disciples alone and explains to them the parable's meaning:

> Et dicebat eis: Vobis datum est nosse mysterium regni Dei: illis autem, qui foris sunt, in parabolis omnia fiunt: ut videntes videant, et non videant: et audientes audiant, et non intelligant: nequando convertantur, et dimittantur eis peccata.[39]

> And he said to them: To you it is given to know the mystery of the kingdom of God: but to them that are without, all things are done in parables: That seeing they may see, and not perceive; and hearing they may hear, and not understand: lest at any time they should be converted, and their sins should be forgiven them.

The verse beginning 'that seeing they may see' is complex. In his 1979 book on *The Genesis of Secrecy*, Frank Kermode spends a long time discussing this verse, in particular the word 'that'. The Greek word that Mark uses is *hina*, which means 'so that/in order to'. In other words, Christ says that he talks in parables *so that* those who are outside may see and not perceive, hear and not understand. Christ speaks in parables in order to hide salvation from the uninitiated, 'lest at any time they should be converted, and their sins should be forgiven them'. Kermode notes that biblical exegetes, troubled with this passage, have tried to see *hina* as a corruption of *hoti*, which means 'since/because'. If this were the case, Christ would be speaking in parables in order to stop people seeing and not perceiving. Parables would be a method of helping people to open their eyes of understanding. This was the position taken by Matthew, who was obviously troubled by Mark's *hina* and wanted to present a Christ whose Word could be understood by all. In Mark, Jesus is purposefully obscure, keeping the outsiders outside; in Matthew, the

---

[39] Mark 4: 11–12.

outsiders are kept outside due to their inability to understand properly. Kermode sees the desire to rewrite Christ's words as a natural response to a declaration that there is a powerful secret that one cannot understand:

> The desire to change *hina* to *hoti* is a measure of the dismay we feel at our arbitrary and total exclusion from the kingdom, or from the secret sense of the story, of which we learn – by its radiance – only that it is overwhelmingly important.[40]

In other words, when a reader is faced with something that seems incomprehensible, rather than accepting the fact that they are excluded from meaning, such a reader naturally believes that their inability to understand comes from not *yet* having requisite knowledge.

   Naturally, a reader who commits to reading a text wants to understand that which they are reading. Faced with secrecy and obscurity, they are kept alienated from meaning and understanding. Tantalised by that which is not yet understood, the reader reads more to see if that will aid understanding. Even when a text is fully read, they are not satisfied; the secrets remain hidden. Although alchemical writers gave the impression that the fundamental secret of alchemy, the secret of the philosophers' stone, could be revealed; alas, it could not. Kermode pithily sums up the contradiction of texts that seem to be open to everyone and yet retain all their secrets:

> The belief that a text might be an open proclamation, available to all, coexisted comfortably with the belief that it was a repository of secrets. And this quality of sacred books is inherited by their counterparts in the secular canon. Shakespeare is an inexhaustible source of occult readings – even, to cite the most vulgar instance, of ciphered senses; yet at the same time he is believed to speak plainly, about most of human life, to any literate layman. Like the scriptures, he is open to all, but at the same time so dark that special training, organized by an institution of considerable size, is required for his interpretation.[41]

Alchemists often claimed that they were speaking plainly whilst simultaneously suggesting that only those with an extensive

---

40 Kermode, *Secrecy*, p. 33.
41 Kermode, *Secrecy*, p. 144.

knowledge of alchemical literature would be able to begin to unravel the layers of alchemy's signification. In another essay, Kermode quotes Roland Barthes, who differentiates between seeing a text like a piece fruit with a stone and seeing a text like an onion:

> If up until now we have looked at the text as a species of fruit with a kernel (an apricot, for example), the flesh being the form and the pit the content, it would be better to see it as an onion, a construction of layers (or levels, or systems) whose body contains, finally, no heart, no kernel, no secret, no irreducible principle, nothing except the infinity of its own envelopes – which envelops nothing other than the unity of its own surfaces.[42]

Mapped onto the literature of alchemy, this onion image could not be more fitting. It is the chimera of the philosophers' stone, of the elixir of life, and of the 'archanum Dei' that is at the core of alchemical writing. The promises of power and wealth provide the incentive to unravel the layers of the onion. There is, however, nothing at the centre. Yes, alchemists attempted to communicate laboratory procedures behind such language, but at the heart of this language is an empty promise. The pretence, or the belief, that there *was* something knowable at the very middle of alchemical language kept its literature alive.

The contents of the late fifteenth-century Ashmole 759 are largely allegorical or in verse. Like many alchemical manuscripts it is multilingual, with entries in both Latin and English. One particularly interesting English tract wrestles with the difficulty of alchemical language, justifying alchemical hermeneutics through a yoking together of Augustine's desire to see beyond the physical world and Christ's call for those who have ears to hear:

> Truth that ev*er*lastith, which is Godis sonne inc*ar*nat here in erth, of our blissyd lady seynt mary virgyne, may not lye; that shewed and taught to the people many good thyngges in *par*abolis; and seide to his disciplas and wele disposid men that to them was yeven to knowe his mist*er*ies, whiche to other be shewyd in

---

[42] Roland Barthes, 'Style and Its Image', in *Literary Style: A Symposium*, ed. Seymour Chatman (Oxford: Oxford University Press, 1971), p. 10. Quoted in Frank Kermode, *Essays on Fiction: 1971–82* (Routledge & Kegan Paul: London, 1983), p. 90.

> *par*abolys; that thaugh thay redde it or herd it redde yeit thay
> schulde not understonde it, in that it is the secrete of God, whiche
> may not entre into thaym for their erthely affeccions, in that thay
> cannie not yeve their mayndes upward to God.[43]

This anonymous author spells out the idea that those who only have
'erthely affeccions' cannot understand Christ's parables. This argument
is made within an overall discussion about the language of alchemy;
he goes on to argue that it is the same earthly people who cannot
understand the language of alchemy. It is only those who can 'yeve
their mayndes upward to God' who have the ability to see through
the parables and to understand what Christ or an alchemical author
might be saying. Both Ashmole and this anonymous fifteenth-
century author accentuate the fact that being a good alchemist is like
being a good Christian. One must have the capacity to understand the
world in terms beyond the immediate, literal, and earthly. The 'secrete
of God', like the secrets of alchemy, will only be revealed to those who
have the capacity to understand things figuratively.

   The instances of alchemical exegesis explored in this chapter are
the result of alchemy's focus on superior intellect. The 'archanum
Dei' is desired by all. As Augustine had suggested, the secrets of God
are to be gleaned by raising one's mind above the literal, which went
hand-in-hand with the material. Alchemical writers conflated the
secrets of God with the secrets of nature and the secrets of alchemy.
In this way, the empty secrets that they wrapped up in layers of
obscurity in their texts became imperative to unravel. The impor-
tance of the alchemical secret was too great to overlook. However, as
Norton's *Ordinal* states, one text in itself cannot tell the whole truth
about alchemy. Therefore, a reader must carry bizarre alchemical
metaphors from one text to another and try to tease out something
coherent from the divergent ways in which alchemical authors used
language. It is this conflation of divergent uses of alchemical lan-
guage that led to alchemical hermeneutics. Alchemical readers were
primed to read things alchemically because the secrets of alchemy
were hidden everywhere and of the utmost importance. Gower,
Chaucer, and Lydgate all briefly discussed alchemy in their respec-
tive oeuvres, which led to centuries of alchemists reading their works
alchemically. Alchemical texts stated that hidden alchemical truth

---

[43] BodL, MS Ashmole 759, folio 37r.

could only be uncovered by the most intelligent readers, justifying those with 'over-greet a wit' seeking alchemical signification in texts where no such meaning was latent.

This chapter has flitted dizzyingly between authors and readers across centuries without acknowledging the vastly different historical, social and scientific contexts in which they lived. The 'alchemical hermeneutics' that I propose, as distinct from the practices, theories, and interpretations of alchemy that have their own discrete and complex histories, was – and is – a transhistorical phenomenon. It is a way of reading characterised by a belief in a vast web of signification that is hidden behind the surface of things; it requires ingenious interpretation and an intellectual superiority that acknowledges the existence of both the *fatuos* and the *sapientes*. As we have seen throughout this book, people read alchemical texts for all sorts of different reasons and with contrasting conceptions of what alchemy was, and yet, by-and-large, the process of understanding alchemical texts was the same. Readers of alchemical literature needed to believe in their privileged knowledge; whether that came in the form of a lesson from an alchemical master, a laboratory discovery, a lifetime of reading, or creative interpretation, alchemical language trained readers, from the fifteenth century to the seventeenth, to keep their eyes open for alchemical significance wherever they looked.

Conclusion

Even the most practical and earnest of alchemists needed their Sir Epicure Mammons to fund their endeavours. Two of the greatest pieces of alchemical literature written in the English language, George Ripley's *Compound of Alchemy* and Thomas Norton's *Ordinal of Alchemy*, were almost certainly written to attract patronage.[1] These texts, therefore, needed to reveal enough about alchemy to entice their potential patrons whilst simultaneously leaving enough out to ensure future investment. In Jonson's *The Alchemist*, Sir Epicure, justifying his alchemical investments to the sceptical Surly, reveals a kaleidoscopic knowledge of richly suggestive alchemical titbits, demonstrating just such an amateur's familiarity with the grand proclamations of this alluring literature:

> I have a piece of Jason's fleece, too,
> Which was no other than a book of alchemy,
> Writ in large sheepskin, a good fat ram-vellum.
> Such was Pythagoras' thigh, Pandora's tub,
> And all that fable of Medea's charms,
> The manner of our work: the bulls, our furnace,
> Still breathing fire; our argent-vive, the dragon;
> The dragon's teeth, mercury sublimate,
> That keeps the whiteness, hardness and the biting;
> And they are gathered into Jason's helm
> (Th'alembic) and then sowed in Mars his field,
> And thence sublimed so often, till they are fixed.
> Both this, th'Hesperian garden, Cadmus' story,
> Jove's shower, the boon of Midas, Argus' eyes,
> Boccace his Demagorgon, thousands more,
> All abstract riddles of our stone.[2]

---

[1] Rampling, *Experimental Fire*, pp. 166–7.
[2] Jonson, *The Alchemist*, act 2.1, lines 89–104.

All the disparate myths he breathlessly recounts are read through the singular and unwavering lens of alchemy. Like Midas himself, Mammon kills the myths of Pandora, the Golden Apples, Cadmus, and all those conjured, by turning them to shining allegories of alchemical gold; he strips them of their narrative, affective, and moral brilliance through monomaniacal interpretation. Whilst it would be unfair to characterise patrons of alchemy as pompous, credulous buffoons in the style of Sir Epicure, it is reasonable to assume that they shared with him an amateur's comprehension of alchemical theory. Otherwise, there would be no point in writing such beautifully constructed patronage suits to them. It was these such armchair alchemists, I argue, who, intrigued by the promises and the lustre of alchemical language but not quite understanding it properly, laid the foundations for alchemy's metaphysical reputation beyond the laboratory.

Thomas Norton's *Ordinal of Alchemy*, for example, was read by royalty,[3] aristocrats,[4] physicians,[5] rural priests,[6] guildsmen,[7] and scholars,[8] amongst other distinct readerships. The likelihood of all these readers being practising alchemists is slim. Norton consciously engaged, as Nicholas Watson has argued, with the 'implications of the vernacular's special ability to communicate across the range of professions and social classes',[9] and encoded into his poem an explicit hierarchy of understanding that was effective at luring curious minds. Like countless other Middle English alchemical authors, Norton postured himself as one opening a door that led to a secret knowledge previously hidden in the inaccessible language of Latin.

[3] Further to the presence of the text within the Royal collection of manuscripts at the British Library, Ashmole makes reference to 'Henry the seaventh's own' copy of the *Ordinal*. Ashmole, *TCB*, p. 455.

[4] Ashmole also mentions that his copy text bore the arms of Neville family; it is likely that the lavishly illuminated BL, MS Additional 10302 was similarly copied to attract aristocratic patronage.

[5] BodL, MS Ashmole 1490 was copied and owned by the Oxford-educated physician, Simon Forman.

[6] BodL, MS E Museo 63 was owned by a Welsh parish priest called John Gwynne.

[7] BodL, MS Ashmole 1479 was owned by the London-based haberdasher, Richard Walton.

[8] John Dee owned BodL, MS E Museo 63 after Gwynne.

[9] Nicholas Watson, 'The Politics of Middle English Writing', pp. 323–9.

Some of Norton's readers tussled and disagreed with the specifics of his alchemy;[10] others underlined, enclosed, drew manicules and wrote *notae* next to important phrases;[11] others inserted lists of authors cited, pointing towards texts that might have elucidated its particulars;[12] some copied the *Ordinal* into alchemical compendia;[13] another inserted the *Ordinal* into a collection of pedagogical texts.[14] Manuscripts of Norton's *Ordinal*, like alchemical manuscripts in general, tell the story of a diverse readership. Many of these readers were *sapientes*, some with recourse to a laboratory; others, we might imagine, were among the *fatuos*, whose interpretative wranglings were bolstered only by an insatiable desire for hidden knowledge.

Norton's *Ordinal* and many of the poems of Harley 2407 are addressed to such amateur alchemists and potential patrons. They sell the alchemical promise whilst never quite revealing the nature of their alchemical operations. Whereas the recipe-poems and the gnomic poems of Harley 2407 were written and read for mnemonic functions, the theoretical and the conceit-poems describe the tenets of alchemy broadly and without practical merit. Similarly, the *Ordinal* directly addresses a non-specialised readership whilst also making use of storytelling, authorial play and language games. These texts were as literary as they were didactic, read by those who did not fully understand alchemical procedures. By heightening the mystery surrounding alchemical knowledge and piquing their readers' intellectual yearning, these authors increased the value of their purported secrets. A side-product of this self-aggrandising marketing practice was a proliferation of interpretations. One of the founding texts of the Order of the Rosy Cross (Rosicrucian Order), a loose society of esoterically minded men devoted to the discovery of secret scientific knowledge, is an extended allegorical work written around 1616 called *Chymische Hochzeit: Christiani Rosencreutz* (*Chymical Wedding of Christian Rosencreutz*). That this text was actually a satire written by the young Johann Valentin Andrae, lambasting the obscure language

---

10 See Cambridge, TCL, MS O.4.39, folio 15v.
11 See BL, MS Sloane 2174, folio 127r; BodL, MS E Museo 63, folios 2r–40r.
12 See BodL, MS Ashmole 1441, p. 81.
13 See BodL, MS Ashmole 1479.
14 See BL, MS Royal 18 B XXIV.

and imagery of alchemists, did little to undermine its credentials as an important text worthy of generations of alchemical exegesis.[15] Alchemical language, used earnestly or ludically, will always invite grand interpretations that can be far removed from implicit authorial intent. Elias Ashmole, a Rosicrucian himself, typified the liberal application of alchemical hermeneutics: in the preface to the *Theatrum chemicum britannicum*, neither medicinal transmutation nor iatrochemical remedies take centre stage; Ashmole is more interested in the movements of angels, the 'whole Wisdom of Nature' and the 'perfection of the Liberall Sciences'.[16] His alchemy lacked focus as his imagination soared, his desires manifesting in the interpretative gaps left by alchemy's difficult language.

Alchemical hermeneutics involves a particular way of reading that brings preconceived certainties to ambiguous literature without taking contexts into account. Like conspiracy theorists, alchemists read with an unwavering faith in their superior understanding of the hidden connections between things. Even when clear evidence shook their complex vision of the universe, they still maintained the truth of their specific understandings of alchemy. It is a way of reading heavily discouraged in educational establishments around the globe. However, as has been implied throughout this book, the art of understanding alchemy is not dissimilar to the art of understanding literature more generally, particularly poetry. In a very broad sense, both the study of alchemy and the study of literature promise that understanding texts properly will bring some sort of material gain; there is a vague promise that understanding literature better will bring either financial or social reward. And yet if, as Barthes, Kermode, and the choir of postmodern critics suggest,[17] there is no fundamental meaning to the texts we read, teachers and lecturers of English, benefiting financially from the promise that understanding literature better could ameliorate someone's life, are not dissimilar

---

15 See Ziolkowski, *The Alchemist in Literature*, pp. 55–61.

16 *TCB*, pp. vi–ix.

17 Barthes, 'Style and Its Image'; Kermode, *Secrecy*. See also Jacques Derrida, *De la grammatologie* (Paris: Éditions de Minuit, 1967); Michel Foucault, 'Qu'est-ce qu'un auteur?', *Bulletin de la Sociéte française de philosophie* 63 (1969), pp. 73–104; Jean Baudrillard, *Simulacres et simulations* (Paris: Éditions Galilée, 1981).

to alchemists peddling knotty interpretations of knotty language: *ignotum per ignocius*. And so, whilst we avoid reading things with an alchemical hermeneutic, we must acknowledge that the elusive promises of alchemy do linger. Students are still convinced that spending time trying to unpick difficult language can benefit them in the long run, which of course it can.

The first major theorist of literature to play with the relationship between the art of the alchemist and the art of the poet was the Elizabethan courtier-poet, Sir Philip Sidney, whose mother, Lady Mary Dudley, fascinated by the promises of alchemy, was a friend of John Dee.[18] In his *Apology for Poetry* (1595), Sidney claims that the role of the poet is 'to lead and draw us to as high a perfection as our degenerate souls, made worse by their clayey lodgings, can be capable of'.[19] In one of his most famous passages, Sidney even claims that poetry has the power to improve on Nature:

> Only the poet [...] lifted up with the vigour of his own invention, doth grow in effect another nature, in making things either better than Nature bringeth forth, or, quite anew, forms such as never were in Nature, as the Heroes, Demigods, Cyclopes, Chimeras, Furies, and such like: so as he goeth hand in hand with Nature, not enclosed within the narrow warrant of her gifts, but freely ranging only within the zodiac of his own wit.[20]

Not only does Sidney share with Roger Bacon and John Gower the view that mankind's degenerate, fleshly nature can be reversed through human agency, but he also asserts that nature herself can be surpassed. Never quite making explicit the connection between alchemy and poetry, he borrows the promises of alchemy and attributes them to the power of poetry:

> Nature never set forth the earth in so rich tapestry as divers poets have done; neither with pleasant rivers, fruitful trees, sweet-smelling flowers, nor whatsoever else may make the too much loved

---

[18] For Sidney's relationship with alchemy as inherited from his mother, see Katherine Duncan-Jones, *Sir Philip Sidney: Courtier Poet* (London: Hamish Hamilton, 1991), pp. 115–16.

[19] Philip Sidney, *An Apology for Poetry (or the Defence of Poesy)*, ed. Geoffrey Shepherd (Manchester: Manchester University Press, 1965; repr. 2006), p. 104.

[20] Ibid., p. 85.

earth more lovely: her world is brazen, the poets only deliver a golden.[21]

Poetry, Sidney suggests, has the transmutative power to turn the world of brass into a world of gold. He even appropriates from the alchemical canon the notion that speaking in metaphor was a calculated method to keep fools away from important truths:

> There are many mysteries contained in Poetry, which of purpose were written darkly, lest by profane wits it should be abused.[22]

Sidney's alchemical defence of poetry was not lost on Elias Ashmole, who borrowed some of the poet's phrases for his own justification of alchemical verse:

> Nor did the Ancients wrap up their Chiefest Mysteries, any where else, then in the Parobolical & Allusive part of Poetry, as the most Sacred, and Venerable in their Esteeme, and the securest from Prophane and Vulgar Wits. (*TCB*, p. i)

'Prophane', worldly wits, according to Ashmole and Sidney were not worthy of the greatest secrets. Alchemists promised a bettering of nature through purposefully obscure language. Sidney, in the *Apology for Poetry*, suggests that 'Poetry' can do exactly that.

Sidney's celebration of poetry's ability to transmute Nature whilst keeping her 'mysteries' hidden from the vulgar has its roots in a twelfth-century notion that the poet has a personal, sexualised relationship with her and her 'pryvetee', as it were. In the *Liber de planctu naturae* (c. 1168), an allegorical poem detailing Nature's complaint for mankind's sexual eccentricity, Alain de Lille painstakingly describes the significance of Nature's clothes and her body. When he comes to describe her 'thalamus secretior' (inner chamber), it is virginal sexual potential that acts as the allegory for nature's secrets:

> In corporis etenim vultus latebat beatior, cuius facies ostentabat praeludium. Ut ipse tamen vultus loquebatur, non Dionea clavis eius sigillum reseraverat castitatis.[23]

---

21 Ibid.
22 Ibid., p. 142.
23 Alain de Lille, *Liber de planctu naturae*, pp. 28–9. Translation by James Sheridan in Alain de Lille, *Plaint of Nature*, ed. and trans. James J. Sheridan (Toronto: Pontifical Institute of Medieval Studies, 1980), p. 75.

> For in her body lay hidden a more blissful aspect to which her face
> showed the introduction. However, as her countenance revealed,
> the key of Dione's daughter had not opened the lock of her chastity.

Nature's guarded genitalia allegorically represent the yearned-for
secrets of Nature. This depiction of a sexualised Nature was common
throughout medieval Europe. The pursuit of knowledge, particularly
natural philosophy, was often depicted as sexual conquest. Such a
coalescence of the intellectual and erotic reached its zenith with Jean
de Meun's completion of Guillaume de Lorris' *Le Roman de la Rose*
around 1275. The poem concerns a lover (Amant) who falls in love
with a rose; the 20,000 lines that follow ostensibly relate Amant's
attempts to achieve his sexual desire. Along the way, however, he –
and the vernacular reader – are subject to encyclopaedic lessons on
all manner of topics, delivered by a cast of allegorical figures. Know-
ledge, previously hidden in chaste Latin literature, is opened up to
the sexualised vernacular man.

   In an uncomfortable development of the notion of the sexualis-
ation of knowledge, both poet and alchemist laid claim to Nature's
'pryvetee'. The poetic ownership of a sexualised Nature is well realised
in the anonymous twelfth-century poem *Nuda Natura*, depicting a
poet who, having gazed directly at a naked Nature, discloses her
secrets: 'Nature talamos intrans reseransque poeta / cuilibet inven-
tus meruit reperire quod audis' (Entering and revealing the secret
room of Nature, a poet deemed the discovery worthy of revelation
to anyone who would hear it).[24] This poet, with unobscured access
to Nature's naked self, is undiscerning in his revelation of Nature's
secrets; as Nature herself protests, he prostitutes her modesty:

> Sta procul et noli mihi plus inferre pudorem.
> in mea te secreta fui vix passa venire,
> debuerasque mihi deferre fidemque perhenni
> custodire pie matri domineque tenore.
> tu vero quare me vilem non timuisti
> reddere meque, velud meretricis nomine dignam,
> que de me scisti difundens prostituisti?

---

[24] F. J. E. Raby, '*Nuda Natura* and Twelfth-Century Cosmology', *Speculum*
43 (1968), p. 73.

non igitur paciar quod de prope iam videas me,
set procul abiectum mortique ferisque relinquam.[25]

Stand afar off, and do no more wrong to my modesty. Only with
difficulty did I bring myself to allow you to enter into my mys-
teries. You ought to have kept perpetual faith with your kindly
Mother and Lady. Why, then, have you not been afraid to make
me common, and, by spreading abroad what you knew about me,
prostituted me, as though I were worthy of the name of a harlot:
For this reason I will not suffer you any longer to look closely upon
me, but I will cast you out and leave you to death and the beasts.

Nature, as declared by Macrobius in the *Commentary on the Dream
of Scipio*, does not like to be naked: 'inimicam esse naturae apertam
nudamque expositionem' (Nature is averse to being opened and
denuded through explanations).[26] The implication is that, instead
of devaluing Nature's sexual capital by advertising her secret parts,
poets should dress her in integumental layers.[27] Just as Boethius'
Philosophy is dressed in a robe tattered by the grasping hands of
philosophers, Bernardus Silvestris and Alain de Lille, who defined
the medieval concept of the personified Nature, dressed her in
meaning-laden clothing. Hence, the act of understanding Nature

---

[25] '*Nuda Natura*', p. 74; translation by Raby, p. 76.

[26] Macrobius, *In Somnium Scipionis commentarii*, ed. James Willis (Leip-
zig: Teubner, 1965), p. 7. Cited in Raby, '*Nuda Natura*', p. 75; translation
my own.

[27] For analyses of the concept of the *integumentum*, the clothing and erot-
icisation of Nature and literature, see Edouard Jeauneau, 'L'usage de la
notion d'*integumentum* à travers les gloses de Guillaume de Conches', *Ar-
chives d'histoire doctrinale et littéraire du moyen âge* 32 (1957), pp. 35–100;
Rita Copeland and Stephen Melville, 'Allegory and Allegoresis, Rhetoric
and Hermeneutics', *Exemplaria* 3 (1991), pp. 159–87; A. J. Minnis, *Mag-
ister Amoris: The 'Roman de la Rose' and Vernacular Hermeneutics'* (Oxford:
Oxford University Press, 2001), pp. 82–119; Vincent Gillespie, 'Allegory,
Allegoresis, and the Erotics of Reading', in Mary Carr, K. P. Clarke, and
Marco Nievergelt (eds), *On Allegory: Some Medieval Aspects and Approaches*
(Newcastle: Cambridge Scholars, 2008): pp. 231–56; Knox, 'The *Romance
of the Rose* in Fourteenth-Century England', pp. 26–31; Kellie Robertson,
Nature Speaks: Medieval Literature and Aristotelian Philosophy (Philadel-
phia, PA: University of Pennsylvania Press, 2017), pp. 170–6.

became an act of undressing her, a pleasure shared by (largely male) readers of poetry and alchemy alike.

The alchemist, pseudo-Ramon Lull, whose microcosmic depiction of a fallen elemental universe was explored in relation to Bacon and Gower in Chapter 1, inhabits the same role of guardian of Nature's secrets in his *Testamentum*. He was not alone in doing so; alchemists regularly employed sexual metaphors to describe their relationship with Nature. Pseudo-Lull, however, is particularly interesting in the way he actively engages with the poetic tradition of Nature's lament. Addressing 'he that hath ears to hear', he declares that the alchemical process falls within Nature's fundamental remit 'multiplicare speciem' (to multiply the species), accentuating the relationship between alchemy and sexual reproduction. He then goes on to depict a lamenting Nature who struggles in her battle against death and corruption, explicitly linking his treatise to *Le Roman de la Rose*, which vividly portrays Nature despairingly locked in this same eternal conflict.[28] In her lament, pseudo-Lull's Nature cries out that there are those 'quia mea instrumenta me volunt tolli atque mea secreta vie volunt decelare' (who want to take my instruments, to unveil my secrets).[29] Like a knight in shining armour, the alchemist steps in with promises to protect her against the ravishment of such enemies: 'Et ob hoc, cum ipsa requisivit, in mandatum suscepimus, quod sua instrumenta habemus secretare et custodire a manibus inimicorum suorum' (Therefore, when she asked such things, we have taken up the commandment, because we will hide her instruments and guard them from the hands of her enemies).[30] Both poet and alchemist laid claim to an exclusive relationship with Nature. The revelation of her secrets, therefore, was titillatingly transgressive.

Geoffrey Chaucer, and the authors discussed in Chapter 1 of this book, refused to be ensnared by the allure of alchemy's 'pryvetee'. Chaucer was, however, excited by the linguistic and narrative possibilities of such claims to Nature's secret functions. As a 'lewed' and disgruntled narrator, the character of the Yeoman is perfectly created to ensure that centuries of readers continued to

---

[28] Jean de Meun, *Le Roman de la Rose*, lines 15865–15982.

[29] Pseudo-Lull, *Testamentum*, p. 6.

[30] Ibid.

debate the extent to which Chaucer left space for a 'true' alchemy in comparison to the failure and deceit on show in the tale. Making use of encyclopaedias, alchemical texts, European tales and popular satires, Chaucer weaved together the many conceptions of alchemy and alchemists that circulated in fourteenth-century England. Although any attempt to work out Chaucer's true feelings towards alchemy would be as fruitful as trying to find the philosophers' stone, his sceptical depiction of alchemical 'pryvetee' does seem to undermine the linguistic bombast of the highly obscure texts from which the Yeoman quotes at the end of the tale. John Gower, on the other hand, the impotent old Amans of the *Confessio Amantis*, acknowledged that he did not have the wherewithal to penetrate Nature's secrets, but rather looked longingly at them from afar. As an antidote to society's many ills, Gower's vision of Nature's 'pryvetee' could not be more desirable, and yet he was happy to accept that he would not be the one to achieve such an aim through alchemy. His microcosmic cure comes rather in the shape of the *Confessio* itself. Gower did not think himself up to the task of understanding alchemy and yet his belief in the possibility of doing so gave him – alongside Bacon and Norton – hope in the possibility of reform. These vernacular poems popularised the idea of alchemy among lay readers. Even if alchemy was portrayed disparagingly, its secret and multiple language inspired readers to find out more about its promises. By the time of the fifteenth century, there was a thriving vernacular readership who knew of the allure of alchemy without ever having set foot in a laboratory.

This fifteenth-century readership, of course, paved the way for the alchemical readers of the early modern period. It was not only Sidney who made use of alchemy's rich suggestiveness; metaphorically, alchemy permeated early modern culture through its narrative of amelioration. Shakespeare's interest in alchemy, for example, seems to have been rooted in the relationship between gold and the sun. Sonnet 33, in which Shakespeare compares the contamination of his Fair Youth's morality to the clouding of the sun, begins with an image of the sun's gilding power:

Full many a glorious morning have I seen
Flatter the mountain-tops with sovereign eye,

> Kissing with golden face the meadows green,
> Gilding pale streams with heavenly alchemy.[31]

The alchemical sun has the power to gild nature and make the world more beautiful. However, as the poem progresses, and the sun 'permit[s] the basest clouds to ride / With ugly rack on his celestial face',[32] there is a sort of reverse alchemy at play; the golden sun is debased with corruption. Prince Hal, however, undergoes the opposite transmutation. In the only soliloquy of *1 Henry IV*, the riotous prince reveals that his roguish behaviour in youth is a mere performance, calculated to heighten his future glory:

> Yet herein will I imitate the sun,
> Who doth permit the base contagious clouds
> To smother up his beauty from the world,
> That, when he please again to be himself,
> Being wanted, he may be more wondered at
> By breaking through the foul and ugly mists
> Of vapours that did seem to strangle him.[33]

Whereas the clouding of the Fair Youth's alchemical lustre is a seemingly permanent stain, Hal's 'contagious clouds', his deleterious and dishonourable friends, are only gathered to be cast off. The alchemical implications of the image are gestured at towards the end of the soliloquy, when Hal compares himself to 'bright metal on a sullen ground'.[34] His 'reformation' will 'falsify men's hopes', as, 'glittering', he shines more brightly against the 'foil' of those from his 'base' past.[35] The imagery of falsification, of seeming transformation and of metallurgy are heavily suggestive of alchemical transmutation,

---

31 William Shakespeare, 'Sonnet 33', *The Complete Sonnets and Poems*, ed. Colin Burrow (Oxford: Oxford University Press, 2002). The very same metaphor, whereby the sun 'plays the alchemist', is used by King Phillip in *King John* as he savours the beauty of the day of the wedding between Louis and Blanche before the arrival of Cardinal Pandulph. William Shakespeare, *King John*, ed. Jesse M. Lander and J. J. M. Tobin (London: Bloomsbury, 2018), act 3.1, lines 77–80.

32 Shakespeare, 'Sonnet 33', lines 5–6.

33 William Shakespeare, *King Henry IV, Part 1*, ed. David Scott Kastan (London: Arden Shakespeare, 2005), act 1.2, lines 187–93.

34 Ibid., line 202.

35 Ibid., lines 203–5.

as if Hal were like Chaucer's second canon, pretending to create gold out of something baser, when, in fact, the gold was there all along. Other references to alchemy pepper the works of Shakespeare, such as in Casca's declaration that Brutus' 'countenance, like richest alchemy / Will change to virtue and to worthiness' the conspirators' plot in *Julius Caesar*.[36] Cautious of alchemical hermeneutics, I am hesitant to read some of Shakespeare's more difficult imagery as covert references to the processes of alchemy;[37] Shakespeare was more interested, I venture, in alchemy's ability to make something seem better than it might otherwise be.

John Donne, on the other hand, whose metaphysical conceits share with alchemical poems a proclivity to compare and coalesce disparate entities, found in alchemy copious rich metaphors that run through his poems like metallic veins through rock. In 'Resurrection, Imperfect', Donne evokes all the thrilling implications of what Jung called the *lapis*-Christ parallel, whereby the philosophers' stone is likened to Jesus Christ:

> He was all gold when He lay down, but rose
> All tincture, and doth not alone dispose
> Leaden and iron wills to good, but is
> Of power to make even sinful flesh like His.[38]

---

[36] William Shakespeare, *Julius Caesar*, ed. David Daniell (London: Arden Shakespeare, 1998), act 1.3, lines 157–60. For other explicit alchemical references in Shakespeare, see William Shakespeare, *Timon of Athens*, ed. Anthony B. Dawson and Gretchen E. Minton (London: Cengage Learning, 2008), act 5.1, lines 115–18; William Shakespeare, *All's Well that End's Well*, ed. Suzanne Gossett and Helen Wilcox (London: Bloomsbury, 2019), act 5.3, lines 101–104; William Shakespeare, *King Henry IV, Part 2*, ed. James C. Bulman (London: Bloomsbury, 2016), act 3.2, lines 354–55. Cumberland Clark, *Shakespeare and Science* (New York: Haskell House, 1970), pp. 60–9.

[37] For more liberal reading of Shakespeare's alchemy, see W. A. Murray, 'Why Was Duncan's Blood Golden?', *Shakespeare Survey* 19 (1966), pp. 34–43 and Margaret Healy, *Shakespeare, Alchemy and the Creative Imagination: The Sonnets and 'A Lover's Complaint'* (Cambridge: Cambridge University Press, 2013).

[38] John Donne, 'Resurrection, Imperfect', in *Collected Poetry*, ed. Ilona Bell (London: Penguin, 2012), lines 13–16.

Having died golden, Christ resurrects as the philosophers' stone, drawing baser bodies to perfection as the stone does metals. None of alchemy's metaphoric potential was lost on Donne. In 'The Comparison', he crudely compares his lover's genitals to 'the limbeck's warm womb',[39] taking advantage of alchemy's sexual, procreative imagery. Alchemical death and sex are combined in 'The Dissolution' and 'A Nocturnal Upon St. Lucy's Day, Being the Shortest Day', in which Donne's body becomes a sort of alchemical furnace 'in whom love wrought a new alchemy […] A quintessence even from nothingness',[40] both poems toying with the physical and metaphysical changes brought about through love, death and alchemy. The alchemy of death is something that appears again in 'Epitaph on Himself. To the Countess of Bedford', where the poet talks of 'grow[ing] gold' in the grave through the power of poetry, mimicking the progression of metals in the bowels of the earth.[41] Donne even engages with the potential impotence of the alchemical endeavour in 'The Sun Rising' and 'Love's Alchemy'. In the former, he states that all 'honour's mimic, all wealth alchemy' compared to the universal bliss experienced by him and his lover, thereby implying that 'alchemy' is not real wealth;[42] in the latter, his most direct engagement with alchemy, the extended conceit suggests that the search for the 'centric happiness' of Love is 'imposture', like the perpetual and unachievable goal of the alchemical 'elixir'.[43] Unlike Shakespeare, Donne comprehensively engages with the intricacies of alchemy and its imagery, taking advantage of its ability to be at once divine and earthly, spiritual and physical, powerful and impotent.

These are just choice examples of the ways in which alchemy was embedded in early modern culture. From the wealth of sixteenth- and seventeenth-century alchemical manuscripts to the meteoric career of John Dee, the golden threads of alchemy were woven

---

[39] Donne, 'The Comparison', in *Collected Poetry*, line 36.
[40] Donne, 'A Nocturnal Upon St. Lucy's Day, Being the Shortest Day', in *Collected Poetry*, lines 13–15.
[41] Donne, 'Epitaph on Himself. To the Countess of Bedford', in *Collected Poetry*, line 14.
[42] Donne, 'The Sun Rising', in *Collected Poetry*, line 24.
[43] Donne, 'Love's Alchemy', in *Collected Poetry*, lines 2–7.

into the tapestry of post-Reformation England.[44] The promises of alchemy were the promises of humanism, offering financial, social and spiritual improvement through the ingenious interpretation of a wide range of ancient texts. Ashmole's publication of the *Theatrum chemicum britannicum* in 1652 coincided with a profusion of printed alchemical texts in England.[45] In the second half of the seventeenth century, as the Royal Society was founded, the appetite for alchemical knowledge grew to such an extent that 318 alchemical books were published in the years 1650–89, compared to 101 between 1527 and 1649. The reading and collecting of alchemical manuscripts did not end with the publication of the *Theatrum*, but a new and more professionalised alchemical culture was certainly on the rise in the mid-seventeenth century, marching towards the Age of Enlightenment. The medieval alchemical manuscript, no longer consulted for its secrets, became a collector's item. Drifting further from the practical procedures they were describing, medieval alchemical texts were read ever more metaphorically, morphing into the esoteric troves upon which nineteenth-century occultists – and later Jung – would perform their own alchemical hermeneutics.

Despite the prevalence of alchemy in late-medieval and early modern England, the majority of literary writers saw alchemy as foolish and fraudulent.[46] The hope that Gower saw in alchemy's language was not seen again in literature until the practice of alchemy gave way to chemistry and alchemical texts began to be read as occult expressions of a mystic truth, the zenith of which is seen in Jung.[47] These days, alchemy continues to lure curious minds. As well as having continued appeal in popular literature from the *Harry Potter*

---

44 Glyn Parry, *The Arch Conjurer of England: John Dee* (New Haven, CT: Yale University Press, 2011); Mordechai Feingold, 'A Conjurer and a Quack? The Lives of John Dee and Simon Forman', *Huntington Library Quarterly* 68 (2005), pp. 545–59; György E. Szonyi, *John Dee's Occultism: Magical Exaltation through Powerful Signs* (Albany, NY: State University of New York Press, 2004). Glyn Parry, 'John Dee and the Elizabethan British Empire in its European Context', *The Historical Journal* 49 (2006), pp. 243–75.

45 Kassell, 'Secrets Revealed', p. 61.

46 See Ziolkowski, *The Alchemist in Literature*, pp. 36–55.

47 See Newman and Principe, 'Some Problems', pp. 386–401.

franchise to Paulo Coelho's *The Alchemist*,[48] both of which play on
the idea of alchemy as a sort of spiritual journey, alchemy is debated
in societies and 'guilds' that are solely devoted to the subject. On the
Facebook discussion page of one international group, members (of
which there are almost 10,000) post videos of chemical reactions
described through alchemical language; they discuss Gnosticism,
psychology, the occult; they share psychedelic art, unorthodox social
theories and motivational quotations; they ask questions about an
astonishing array of ingredients; and there are conferences, courses
and products to buy.[49] Sometimes, disagreements arise over what
alchemy *really* means, but generally it seems to be a space in which
people can perform their complex alchemical hermeneutics amongst
others doing the same. Members, no doubt believing themselves to
be among the *sapientes*, perform some genuinely impressive inter-
pretative acrobatic to arrive at their unique understandings of this
secret knowledge. Alchemical readers were constantly told that
alchemy was not easy; they had to work hard to get to the truth.
These twenty-first-century adherents to alchemical lore have done
precisely that.

In this book, I have shown how the language of alchemy has led to
a proliferation of meaning. Without the institutional control of some-
thing like an organised religion or an academic field, alchemy was able
to morph and develop in the eyes of each new reader. Chaucer, Bacon,
Gower, Norton, Lydgate, all acknowledged the notion that alchemy
was a body of knowledge that was appropriate only for a select few.
The selection process was the art of proper interpretation. I do not see
this notion as being unique to the literature of alchemy: the idea that
a text is written for a certain group of people, who will understand
nuances more so than those for whom the text was not written, is
universal. We, as readers, teeter between being among the *fatuos* and
being among the *sapientes*; we know that there are those who do not
understand what we understand whilst simultaneously imagining that
there are those who understand the text better. There is, of course,

48 J. K. Rowling, *Harry Potter and the Philosopher's Stone* (London: Blooms-
bury, 2001); Paulo Coelho, *The Alchemist*, trans. Alan R. Clarke (New
York: HarperCollins, 1993).

49 International Alchemy Guild (IAG), *Facebook*, www.facebook.com/
groups/guildalchemy [accessed 2 April 2022].

pleasure in this experience; both in the self-satisfaction and in the excitement that there is more to discover. For alchemical readers, this pleasure was heightened by the promise of fame, riches, immortality, angelic conversation, power, proximity to God, spiritual perfection, the titillating revelation of Nature's 'pryvetee', or whatever it was they believed the 'true' goal of alchemy to be. But sometimes, pretending to understand was just as worthwhile.

Bibliography

Manuscripts Consulted

Cambridge,
  Corpus Christi College,
    MS 112

  Trinity College,
    MS 1122   MS O.8.5
    MS 1400 (IV)   MS O.8.24
    MS O.2.15   MS O.8.25

  University Library,
    MS Additional 3035

  University Library,
    MS.KK.VI 30

Glasgow,
  University Library,
    MS Hunter 59 (T.2.17)   MS Hunter 254 (U.4.11)
    MS Hunter 110 (T.5.12)

London,
  British Library,

MS Additional 5025 (1)	MS Harley 116
MS Additional 5025 (2)	MS Harley 218
MS Additional 5025 (3)	MS Harley 853
MS Additional 5025 (4)	MS Harley 2407
MS Additional 10302	MS Harley 2411
MS Additional 17358	MS Harley 3528
MS Additional 22139	MS Harley 4425
MS Additional 47680	MS Harley 7026/1
MS Cotton Cleopatra A III	MS Lansdowne 703
MS Egerton 845	MS Lansdowne 851
MS Egerton 2672	MS Royal 9 B II
MS Egerton 2726	MS Royal 12 C VI
MS Egerton 2781	MS Royal 12 E XV

MS Royal 12 G II
MS Royal 12 G III
MS Royal 12 G V
MS Royal 18 B XXIV
MS Sloane 212
MS Sloane 288
MS Sloane 300
MS Sloane 320
MS Sloane 321
MS Sloane 338
MS Sloane 976
MS Sloane 1091
MS Sloane 1098
MS Sloane 1198
MS Sloane 1723
MS Sloane 1751
MS Sloane 1754
MS Sloane 1873
MS Sloane 1934
MS Sloane 1975

MS Sloane 2036
MS Sloane 2135
MS Sloane 2174
MS Sloane 2203
MS Sloane 2327
MS Sloane 2532
MS Sloane 2592
MS Sloane 2598
MS Sloane 3548
MS Sloane 3578
MS Sloane 3580 A
MS Sloane 3580 B
MS Sloane 3630
MS Sloane 3644
MS Sloane 3667
MS Sloane 3744
MS Sloane 3747
MS Sloane 3831
MS Sloane 3809
MS Stowe 1070

Wellcome Library,
MS 497
MS 537

MS 580
MS 692

Oxford,
Bodleian Library,
MS Ashmole 57
MS Ashmole 759
MS Ashmole 766
MS Ashmole 1408 (VIII)
MS Ashmole 1423
MS Ashmole 1441

MS Ashmole 1445 (II)
MS Ashmole 1451
MS Ashmole 1464
MS Ashmole 1479
MS Ashmole 1490
MS E Museo 63

Paris,
Bibliothèque de l'Arsenal,
MS 2872

Warminster,
Longleat House,
MS Marquess of Bath 178

Dictionaries, Databases, and Online Resources

British Library, 'Explore Archives and Manuscripts'; http://searcharchives.bl.uk [accessed 25 July 2021]

Cuddon, J. A, *The Penguin Dictionary of Literary Terms and Literary Theory* (London: Penguin, 1999)

International Alchemy Guild (IAG), *Facebook*, www.facebook.com/groups/guildalchemy [accessed 2 April 2022]

Lewis, Robert E., et al., *Middle English Dictionary*, ed. Robert E. Lewis, et al. (Ann Arbor, MI: University of Michigan Press, 1952–2001). Online edition in *Middle English Compendium*, ed. Frances McSparran, et al. (Ann Arbor, MI: University of Michigan Library, 2000–18); https://quod.lib.umich.edu/m/middle-english-dictionary/dictionary [accessed 11 July 2021]

Mooney, Linne R., et al., *Digital Index of Middle English Verse* (2010); digitisation and expansion of Julia Boffey and A. S. G. Edwards (eds), *A New Index of Middle English Verse* (London: The British Library, 2005); www.dimev.net (accessed 11 July 2021)

Murray, James (ed.), *Oxford English Dictionary*, 3rd edn (Oxford: Oxford University Press, 2004); www.oed.com [accessed 11 July 2021]

Oxford Dictionary of National Biography, various editors (New York: Oxford University Press, 1885–2004); www.oxforddnb.com/ [accessed 11 July 2021]

Primary Sources

Alain de Lille, *Literary Works*, ed. and trans. Winthrop Wetherbee (Cambridge, MA: Harvard University Press, 2013)

—— *Plaint of Nature*, ed. and trans. James J. Sheridan (Toronto: Pontifical Institute of Medieval Studies, 1980)

Albertus Magnus, *Liber mineralium* (Oppenheim: Jacob Köbel, 1518)

Al-Hassan, Ahmad Y. (ed. and trans.), 'The Arabic Original of *Liber de compositione alchemiae*: The Epistle of Maryānus, the Hermit and Philosopher, to Prince Khālid ibn Yazīd', *Arabic Sciences and Philosophy* 14 (2004), pp. 213–31

Al-Nadīm, 'The Arabic Literature on Alchemy According to an-Nadīm (A.D. 987)', ed. and trans. J. W. Fück, *Ambix* 4 (1951), pp. 81–144

Al-Rāzī, Muhammad ibn Zakariya, *The Alchemy of Al-Razi: A Translation of the 'Book of Secrets'*, trans. Gail Taylor (North Charleston, SC: Gail Taylor, 2014)

Aquinas, Thomas, *Opera omnia*, 7 vols (Stuttgart: Frommann-Holzboog, 1980)

Aristotle, *Aristoteles Latinus IX.1: De generatione et corruptione: Translatio vetus*, ed. Joanna Judycka (Leiden: Brill, 1986)

—— *Aristoteles Latinus X.2: 'Meteorologica': Translatio Guillelmi de Moerbeka*, ed. Gudrun Vuillemin-Diem, 2 vols (Turnhout: Brepols, 2008)

—— *Aristotle's 'Meteorology' in the Arabico–Latin Tradition*, ed. Pieter L. Schoonheim (Leiden: Brill, 2000)

—— *Météorologiques*, ed. and trans. Pierre Louis, 2 vols (Paris: Belles Lettres, 1982)

—— *Meteorologica*, trans. E. W. Webster, in *The Works of Aristotle Translated into English*, ed. W. D. Ross (Oxford: Clarendon Press, 1908–1952), vol. 3

Ascham, Roger, *The Scholemaster*, ed. John E. B. Mayor (London: Bell and Daldy, 1863)

Ashmole, Elias, *Theatrum chemicum britannicum* (London: 1652)

Augustine of Hippo, *Augustini sermones post maurinos reperti*, ed. G. Morlin (Rome: Vatican Polyglot Press, 1930)

—— *De doctrina christiana*, ed. and trans. R. P. H. Green (Oxford: Clarendon Press, 1995)

—— *De Genesi ad litteram libri duodecim, Patrologia Latina*, ed. J.-P. Migne (Paris: 1841), vol. 34

—— *Homilies on the Gospel According to St. John*, ed. and trans. H. Browne, 2 vols (Oxford: J. H. Parker, 1848)

—— *In Joannis evangelium, Patrologia Latina*, ed. J.-P. Migne (Paris: 1845), vol. 35

Avicenna, *De congelatione et conglutinatione lapidum, Being Sections of the Kitab Al–Shifa*, ed. E. J. Holmyard and D. C. Mandeville (Paris: Paul Geuthner, 1927)

Bacon, Roger, *Opera quaedam hactenus inedita Rogeri Baconi I: Opus tertium, Opus minus, Compendium philosophiae*, ed. J. S. Brewer (London: Longman, 1859)

—— *Opera hactenus inedita Rogeri Baconi V: Secretum secretorum cum glossis et notulis*, ed. Robert Steele (Oxford: Clarendon Press, 1920)

—— *Opus majus*, ed. John Henry Bridges, 2 vols (Oxford: Clarendon Press, 1897)

—— *Opus majus*, trans. Robert Belle Burke, 2 vols (Philadelphia, PA: University of Pennsylvania Press, 1928)

—— *Part of the 'Opus tertium' of Roger Bacon*, ed. A. G. Little (Aberdeen: Aberdeen University Press, 1912)

—— *Roger Bacon's Letter: Concerning the Marvelous Power of Art and of Nature and Concerning the Nullity of Magic*, ed. and trans. Tenney L. Davis (Easton, PA: The Chemical Publishing Company, 1923)

Bernardus Silvestris, *Cosmographia*, ed. Peter Dronke (Leiden: Brill, 1978)

Berthelot, Marcellin (ed. and trans.), *Collection des anciens alchimistes grecs*, 3 vols (London: Holland Press, 1963)

de Boer, Cornelis (ed.), *Ovide moralisé en prose* (Amsterdam: North-Holland, 1954)

Calcidius, *On Plato's 'Timaeus'*, ed. and trans. John Magee (Cambridge, MA: Harvard University Press, 2016)

Caley, Earle Radcliffe (ed. and trans.), 'The Leyden Papyrus X: An English Translation with Brief Notes', *Journal of Chemical Education* 3 (1926), pp. 1149–66

—— 'The Stockholm Papyrus: An English Translation with Brief Notes', *Journal of Chemical Education* 4 (1927), pp. 979–1002

Chaucer, Geoffrey, *'The Canterbury Tales' by Geoffrey Chaucer: Edited from the Hengwrt Manuscript*, ed. Norman F. Blake (London: Edward Arnold, 1980)

—— *The Riverside Chaucer*, ed. Larry D. Benson, et al., 3rd edn. (Oxford: Oxford University Press, 1987; repr. 2008)

Constantine of Pisa, *The Book of the Secrets of Alchemy*, ed. and trans. Barbara Obrist (Leiden: Brill, 1990)

Coelho, Paulo, *The Alchemist*, trans. Alan R. Clarke (New York: Harper-Collins, 1993)

Dante Alighieri, *Commedia*, ed. Anna Maria Chiavacci Leonardi, 3 vols (Milan: Zanichelli, 1999–2000)

—— *Dante's Divine Comedy: The Inferno – A Literal Prose Translation*, ed. and trans. John Carlyle (London: George Bell and Sons, 1882)

Dastin, John, 'John Dastin's Alchemical Vision', ed. and trans. Wilfred Theisen, *Ambix* 46 (1999), pp. 65–72

—— 'The Letters of John Dastin', ed. and trans. Wilfred Theisen, *Ambix* 55 (2008), pp. 153–68

Donne, John, *Collected Poetry*, ed. Ilona Bell (London: Penguin, 2012)

Duns Scotus, John, *Metaphysician*, ed. William A. Frank and Allan B. Wolter (West Lafayette, IN: Purdue University Press, 1995)

Fulgentius, *Selected Works*, ed. and trans. Robert B. Eno (Washington, DC: Catholic University of America Press, 1997)

Gohory, Jacques (ed.), *De la Transformation métallique, trois anciens tractez en rithme Françoise* (Paris: 1561)

Gower, John, *Confessio Amantis*, ed. Russel A. Peck, 3 vols (Kalamazoo, MI: Medieval Institute for TEAMS, 2004–13)

—— *The Complete Works of John Gower*, ed. G. C. Macaulay, 4 vols (Oxford: Clarendon Press, 1899–1902)

—— *The Major Latin Works of John Gower*, ed. and trans. Eric W. Stockton (Seattle, WA: University of Washington Press, 1962)

—— *Mirour de l'Omme*, trans. William Burton Wilson (East Lansing, MI: East Lansing Colleagues Press, 1992)

Gregory the Great, *The Dialogues of St. Gregory*, ed. and trans. Edmund G. Gardner (London: Philip Lee Werner, 1911)

Guillaume de Lorris and Jean de Meun, *Le Roman de la rose*, ed. Dominique Martin Méon, 4 vols (Paris: 1814)

—— *Le Roman de la rose*, ed. Félix Lecoy, 3 vols, Classiques français du Moyen Âge, 92, 95, and 98 (Paris: Champion, 1965–75)

—— *Le Roman de la rose*, ed. Nicolas Lenglet du Fresnoy, 4 vols (Amsterdam: 1735)

Hicks, Eric, (ed.), *Le débat sur le 'Roman de la rose'* (Paris: Champion, 1977)

Hugh of St Victor, *De Tribus Diebus*, ed. Dominic Poirel (Turnhout: Brepols, 2002)

Ibn ArfaʿRaʾs, 'Alchemical Poetry in Almohad Morocco: The *Shudhūr al-dhahab* of Ibn ArfaʿRaʾs', ed. and trans. Richard Todd, *Oriens* 44 (2016), pp. 116–44

Ibn Umail, Muhammad, *Tabula Chymica*, in *Philosophiae Chymicae IV Vetustissima Scripta*, ed. Johannes Saur (Frankfurt: 1605), pp. 1–107

—— *Three Arabic Treatises on Alchemy by Muhammad bin Umail* (10th Century AD), ed. M. Turāb ʿAlī, H. E. Stapleton and Hidāyat Husain (Calcutta: Asiatic Society of Bengal, 1933)

Isaac, E. (trans.), '1 (Ethiopic Apocalypse of) Enoch', in *The Old Testament Pseudepigraphia*, ed. James H. Charlesworth (New York: Doubleday, 1984), vol. 1, pp. 5–89

Jābir ibn Hayyān, *Names, Natures and Things: The Alchemist Jābir ibn Hayyān and his "Kitāb al-ahjār" (Book of Stones)*, ed. and trans. Syed Nomanul Haq (Dordrecht: Kluwer, 1994)

Jean de la Fontaine de Valenciennes, *La Fontaine des amoureux de science*, ed. Antoine du Moulin Masconnois (Lyon: Jean de Tournes, 1547)

Jean de Rupescissa, *Liber de consideratione quintae essentiae* (Basel: 1597)

—— '*The Consideration of the Quintessence*: An Edition of a Middle English Translation of John of Rupescissa's *Liber de consideratione de quintae essentiae omnium rerum* with Introduction, Notes, and

Commentary', ed. Marguerite A. Halversen (PhD dissertation, Michigan State University, 1998)

Jonson, Ben, *The Alchemist and Others Plays*, ed. Gordon Campbell (Oxford: Oxford University Press, 2008)

Langland, William, *The Vision of Piers Plowman: A Critical Edition of the B-text Based on Trinity College Cambridge, MS B.15.17*, ed. A. V. C Schmidt, 2nd edn (London: Dent, 1978; repr. 2001)

Latini, Brunetto, *The Book of the Treasure (Li Livres dou Tresor)*, trans. Paul Barrette and Spurgeon Baldwin (New York: Garland, 1993)

Leemans, Conrad (ed.), *Papyri graeci musei antiquarii publici lug-duni-batavi* (Leiden: Brill, 1833)

Lull, Ramon, *Selected Works of Ramon Llull (1232–1316)*, ed. and trans. Anthony Bonner (Princeton, NJ: Princeton University Press, 1985)

Lydgate, John, *The Minor Poems of John Lydgate*, ed. Henry MacCracken, EETS, OS 107 & 192, 2 vols (London: Oxford University Press, 1911–34)

Lydgate, John and Benedict Burgh, *Secrees of old Philisoffres: A Version of the 'Secreta secretorum'*, ed. Robert Steele, EETS, ES 66 (London: Kegan Paul, Trench, Trübner, 1894)

Lyte, H. C. Maxwell (ed.), *Calendar of the Patent Rolls Preserved in the Public Record Office: Edward III A.D. 1327–1330* (London: Eyre and Spottiswoode, 1891)

Macrobius, *In somnium Scipionis commentarii*, ed. James Willis (Leipzig: Teubner, 1965)

Manget, Jean-Jacques (ed.), *Bibliotheca chemica curiosa*, 2 vols (Geneva: Chouet, 1702)

Manuel, Juan, *El Conde Lucanor: A Collection of Medieval Spanish Stories*, ed. and trans. John England (Warminster: Aris & Phillips, 1987)

Manzalaoui, M. A. (ed.), *Secretum secretorum: Nine English Versions*, EETS, OS 176 (Oxford: Oxford University Press, 1977)

Martelli, Matteo (ed.), *The 'Four Books' of Pseudo-Democritus* (Leeds: Maney, 2013)

Myers, Alec Reginald (ed.), *English Historical Documents 1327–1485* (London: Eyre and Spottiswoode, 1969)

Nelson, Charles L. (ed. and trans.), *The Book of the Knight Zifar: A Translation of 'El Libro del Cavallero Zifar'* (Lexington, KY: University of Kentucky Press, 1983)

Norton, Thomas, *Ordinal of Alchemy*, ed. John Reidy, EETS, OS 272 (London: Oxford University Press, 1975)

Ovid, *Metamorphoses*, ed. and trans. Frank Justus Miller, rev. G. P. Goold, 2 vols, Loeb Classical Library, 42, 43 (Cambridge, MA: Harvard University Press, 1977–84)

Paul of Taranto, *The 'Summa perfectionis' of Pseudo-Geber*, ed. William Newman (Leiden: Brill, 1991)

Petrarch, Francesco, *Phisicke against Fortune, as well prosperous, as adverse, conteyned in two Bookes*, trans. Thomas Twyne (London: Richard Watkyns, 1579)

—— *Remedies for Fortune Fair and Foul*, ed. and trans. Conrad Rawksi (Bloomington, IN: University of Indiana Press, 1991)

—— *I Rimedi per l'una e l'altra sorte*, ed. and trans. Ugo Dotti, 4 vols (Torino: Nino Aragno, 2013)

Philalethes, Eirenaeus, *Ripley Reviv'd* (London: 1678)

Philippe de Vitry, 'The *Ars Nova* of Philippe de Vitry', ed. Gilbert Reaney, Andre Gilles, and Jean Maillard, *Musica Disciplina* 10 (1956), pp. 5–33

Pierre D'Abernun of Fetcham, *Le Secre de Secrez by Pierre d'Abernun of Fetchem from the Unique Manuscript B.N. F.fr. 25407*, ed. Oliver A. Beckerlegge (Oxford: Blackwell, 1944)

Pseudo-Albertus Magnus, *Libellus de alchimia: Ascribed to Albertus Magnus*, ed. and trans. Virginia Heines (Berkeley, CA: University of California Press, 1958)

Pseudo-Arnold of Villanova, *Les oeuvres alchimique attribuées à Arnaud de Villeneuve: grand oeuvre, médecine et prophétie au Moyen Âges*, ed. Antoine Calvet (Paris: S.É.H.A., 2011)

—— 'Le *Tractatus parabolicus* de pseudo-Arnaud de Villeneuve', ed. Antoine Calvet, *Chrysopoeia* 5 (1997), pp. 145–71

Pseudo-Ramon Lull, *Le 'Testament' du pseudo-Raymond Lull*, ed. Didier Kahn, trans. Hans Van Kasteel (Grez-Doiceau: Beya, 2006)

—— *Il 'Testamentum' Alchemico Attribuito A Raimundo Lullio* ed. and trans. Michela Pereira and Barbara Spaggiari (Tavarnuzze: SISMEL, 1999)

Quintilian, *Institutio oratoria,* ed. H. E. Butler, 4 vols (London: Heine-mann, 1920–2)

Ripley, George, *Compound of Alchymy (1591)*, ed. Stanton J. Linden (Aldershot: Ashgate, 2001)

Rowling, J. K., *Harry Potter and the Philosopher's Stone* (London: Bloomsbury, 2001)

Schuler, Robert M. (ed.), *Alchemical Poetry, 1575–1700: From Previously Unpublished Manuscripts* (New York: Routledge, 2013)

Senior Zadith, filius Hamuel, *see* Ibn Umail, Muhammad

Severus, Sulpicius, *Life of Saint Martin*, in *The Book of Armagh*, ed. John Gwynne (Dublin: Hodges Figgis, 1913)

Shakespeare, William, *All's Well that End's Well*, ed. Suzanne Gossett and Helen Wilcox (London: Bloomsbury, 2019)

—— *The Complete Sonnets and Poems*, ed. Colin Burrow (Oxford: Oxford University Press, 2002)

—— *Julius Caesar*, ed. David Daniell (London: Arden Shakespeare, 1998)

—— *King Henry IV, Part 1*, ed. David Scott Kastan (London: Arden Shakespeare, 2005)

—— *King Henry IV, Part 2*, ed. James C. Bulman (London: Bloomsbury, 2016)

—— *King John*, ed. Jesse M. Lander and J. J. M. Tobin (London: Bloomsbury, 2018)

—— *Timon of Athens*, ed. Anthony B. Dawson and Gretchen E. Minton (London: Cengage Learning, 2008)

Sidney, Philip, *An Apology for Poetry (or the Defence of Poesy)*, ed. Geoffrey Shepherd (Manchester: Manchester University Press, 1965; repr. 2006)

Stavenhagen, Lee (ed. and trans.), *A Testament of Alchemy: Being the Revelations of Morienus, Ancient Adept and Hermit of Jerusalem to Khalid ibn Mu'awiyya, King of the Arabs of the Divine Secrets of the Magisterium and Accomplishment of the Alchemical Art* (Hanover, NH: University Press of New England, 1974)

Taylor, F. Sherwood (ed. and trans.), 'The Visions of Zosimos', *Ambix* 1 (1937), pp. 88–92

Telle, Joachim (ed.), *Rosarium philosophorum: Ein alchemisches Florilegium des Mittelalters* (Weinheim: VCH Verlagsgesellschaft, 1992)

—— *Sol und Luna: literar- und alchemiegeschichtliche Studien zu einem altdeutchen Bildgedicht: mit Text- und Bildanhang* (Hürtgenwald: Guido Pressler, 1980)

Twenlow, J. A. (ed.), *Calendar of Entries in the Papal Registers Relating to Great Britain and Ireland: Papal Letters*, vol. XI: *1455–1464* (London: HMSO, 1893)

Vincent de Beauvais, *Speculum doctrinale* (Strasbourg: 1477)

—— *Speculum naturale* (Venice: 1494)

William of Ockham, *Quodlibeta septem*, ed. Joseph C. Wey (St Bonaventure, NY: St Bonaventure University Press, 1980)

Zetzner, Lazarus (ed.), *Theatrum chemicum*, 4 vols (Strasbourg: 1659)

Zosimos of Panopolis, *Zosimos of Panopolis on the Letter Omega*, ed. and trans. Howard M. Jackson (Missoula, MT: Scholars Press, 1978)

Secondary Sources

Abraham, Lyndy, *A Dictionary of Alchemical Imagery* (Cambridge: Cambridge University Press, 1998)

Aers, David, 'A Whisper in the Ear of Early Modernists', in *Culture and History 1350–1600: Essays on Communities, Identities, and Writing*, ed. David Aers (Hemel Hempstead: Harvester Wheatsheaf, 1992), pp. 177–202

Aiken, Pauline, 'Vincent de Beauvais and Chaucer's Knowledge of Alchemy', *Studies in Philology* 41 (1944), pp. 371–89

Arner, Lynn, 'History Lessons from the End of Time: Gower and the English Rising of 1381', *Clio* 31 (2002), pp. 237–55

Astell, Ann W., *Chaucer and the Universe of Learning* (Ithaca, NY: Cornell University Press, 1996)

Badel, Pierre-Yves, 'Lectures alchimique du *Roman de la rose*', *Chrysopoeia* 5 (1997), pp. 173–90

—— *'Le Roman de la rose' au XIVe siècle: Étude de la réception de l'oeuvre* (Geneva: Droz, 1980)

Baker, Denise N., 'The Priesthood of Genius: A Study of the Medieval Tradition', *Speculum* 51 (1976), pp. 277–91

Barthes, Roland, *Le plaisir du texte* (Paris: Éditions du Seuil, 1973)

—— 'Style and Its Image', *Literary Style: A Symposium*, ed. Seymour Chatman (Oxford: Oxford University Press, 1971), pp. 3–15

Bartlett, Robert, *The Natural and Supernatural in the Middle Ages* (Cambridge: Cambridge University Press, 2008)

Bartlett, Robert Allen, *Real Alchemy: A Primer of Practical Alchemy* (Lake Worth, FL: Ibis Press, 2009)

Batchelor, Patricia, 'Feigned Truth and Exemplary Method in the *Confessio Amantis*', in *Re-Visioning Gower*, ed. Robert F. Yeager (Asheville, NC: Pegasus Press, 1998), pp. 1–15

Baudrillard, Jean, *Simulacres et simulations* (Paris: Éditions Galilée, 1981)

Bidez, Joseph, and Franc Cumont, *Les mages hellenisés: Zoroastre, Ostanès et Hystaspe d'après la tradition grecque*, 2 vols (Paris: Belles Lettres, 1938)

Bishop, Louise M., '"Of Goddes pryvetee nor of hys wyf": Confusion of Orifices in Chaucer's "Miller's Tale"', *Texas Studies in Literature and Language* 44 (2002), pp. 231–46

Black, William Henry, *A Descriptive, Analytical, and Critical Catalogue of the Manuscripts Bequeathed unto the University of Oxford by Elias Ashmole, Esq., M. D., F. R. S* (Oxford: Oxford University Press, 1845)

Boffey, Julia, *Manuscript and Print in London, c. 1475–1530* (London: British Library, 2012)

Brehm, Edmund, 'Roger Bacon's Place in the History of Alchemy', *Ambix* 23 (1976), pp. 53–8

Brown, Peter, 'Is the "Canon's Yeoman's Tale" Apocryphal?', *English Studies* 64 (1983), pp. 481–90

Bruhn, Mark J., 'Art, Anxiety, and Alchemy in the "Canon's Yeoman's Tale"', *The Chaucer Review* 33 (1999), pp. 288–315

Bryan, W. F., and Germaine Dempster (eds), *Sources and Analogues of Chaucer's 'Canterbury Tales'* (London: Routledge & Kegan Paul, 1958)

Burckhardt, Titus, *Alchemy: Science of the Cosmos, Science of the Soul*, trans. William Stoddart (Shaftesbury: Element, 1986)

Burke, John, and Bernard Burke, *A Genealogical and Heraldic History of the Extinct and Dormant Baronetcies of England, Ireland, and Scotland* (London: John Russell Smith, 1844)

Burnett, Charles, 'The Coherence of the Arabic-Latin Translation Program in Toledo in the Twelfth Century', *Science in Context* 14 (2001), pp. 249–88

Burton, Janet, and Karen Stöber (eds), *The Regular Canons in the Medieval British Isles* (Turnhout: Brepols, 2011)

Calvet, Antoine, 'Alchimie et joachimisme dans les *alchimica* pseudo-arnaldiens', in *Philosophie et alchimie à la Renaissance*, ed. Jean-Claude Margolin and Sylvain Matton (Paris: Vrin, 1993), pp. 93–107

Campbell, Jackson J., 'The Canon's Yeoman as Imperfect Paradigm', *The Chaucer Review* 17 (1982), pp. 171–81

Carlson, David, 'The Writings and Manuscript Collections of the Elizabethan Alchemist, Antiquary, and Herald, Francis Thynne', *Huntington Library Quarterly* 52 (1989), pp. 203–72

Carr, Mary, K. P. Clarke, and Marco Nievergelt (eds), *On Allegory: Some Medieval Aspects and Approaches* (Newcastle: Cambridge Scholars, 2008)

Cavalli, Thom F., *Alchemical Psychology: Old Recipes for Living in a New World* (New York: TarcherPerigee, 2002)

Clark, Cumberland, *Shakespeare and Science* (New York: Haskell House, 1970)

Cobb, Cathy, Monty L. Fetterolf, and Harold Goldthwaite, *The Chemistry of Alchemy: From Dragon's Blood to Donkey Dung – How Chemistry was Forged* (New York: Prometheus Books, 2014)

Collette, Carolyn P., 'Reading Chaucer through Philippe de Mézières: Alchemy, the Individual, and the Good Society', in *Courtly Literature*

and Clerical Culture, ed. Christoph Huber and Henrike Lähnemann, with Sandra Linden (Tübingen: Attempto, 2002), pp. 177–94

Conger, George Perrigo, *Theories of Macrocosms and Microcosms in the History of Philosophy* (New York: Russell and Russell, 1967)

Connolly, Margaret, *Sixteenth-Century Readers, Fifteenth-Century Books* (Cambridge: Cambridge University Press, 2019)

Cook, Megan, 'How Francis Thynne Read His Chaucer', *Journal of the Early Book Society* 15 (2012), pp. 215–43

Cooper, Lisa H., *Artisans and Narrative Craft in Late Medieval England* (Cambridge: Cambridge University Press, 2011)

Copeland, Rita, and Ineke Sluiter, *Medieval Grammar and Rhetoric: Language Arts and Literary Theory, AD 300–1475* (Oxford: Oxford University Press, 2009)

Copeland, Rita, and Peter T. Struck (eds), *The Cambridge Companion to Allegory* (Cambridge: Cambridge University Press, 2010)

Copeland, Rita, and Stephen Melville, 'Allegory and Allegoresis, Rhetoric and Hermeneutics', *Exemplaria* 3 (1991), pp. 159–87

Correale, Robert, with Mary Hamel (eds.), *Sources and Analogues of the Canterbury Tales*, 2 vols (Cambridge: D. S. Brewer, 2005)

Crisciani, Chiara, 'The Conception of Alchemy as Expressed in the *Pretiosa Margarita Novella*', *Ambix* 20 (1973), pp. 165–81

Damon, Samuel Foster, 'Chaucer and Alchemy', *PMLA* 39 (1924), pp. 782–8

Davis, Isabel, *Writing Masculinity in the Later Middle Ages* (Cambridge: Cambridge University Press, 2007)

Dean, James M., *The World Grown Old in Later Medieval Literature* (Cambridge, MA: Medieval Academy of America, 1997)

Dendle, Peter, and Alain Touwaide (eds), *Health and Healing from the Medieval Garden* (Woodbridge: The Boydell Press, 2008)

Derrida, Jacques, 'La "Différance"', *Bulletin de la Société française de philosophie* 62 (1968), pp. 73–120

—— *De la grammatologie* (Paris: Éditions de Minuit, 1967)

DeVun, Leah, *Prophecy, Alchemy, and the End of Time: John of Rupescissa in the Late Middle Ages* (New York: Columbia University Press, 2009)

Di Gangi, Christina, 'Lydgate's *Mesure*: The *Echecs Amoureux* Tradition and the Theme of the *Fall of Princes*' (PhD dissertation, University of Notre Dame, 2006)

Duncan, Edgar H., 'Chaucer and "Arnold of the Newe Town"', *Modern Language Notes* 57 (1942), pp. 31–3

—— 'Jonson's *Alchemist* and the Literature of Alchemy', *PMLA* 61 (1946), pp. 699–710

—— 'The Literature of Alchemy and Chaucer's "Canon's Yeoman's Tale": Framework, Theme, and Characters', *Speculum* 43 (1968), pp. 633–56

—— 'The Yeoman's Canon's "Silver Citrinacioun"', *Modern Philology* 37 (1940), pp. 241–62

Duncan-Jones, Katherine, *Sir Philip Sidney: Courtier Poet* (London: Hamish Hamilton, 1991)

Dunleavy, Gareth W., 'The Chaucer Ascription in Trinity College, Dublin MS. D.2.8', *Ambix* 13 (1965), pp. 2–21

Dutton, Elisabeth, with John Hines, and R. F. Yeager (eds), *John Gower, Trilingual Poet: Language, Translation, and Tradition* (Cambridge: D. S. Brewer, 2010)

Eamon, William, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture* (Princeton, NJ: Princeton University Press, 1994)

Economou, George D., 'The Character of Genius in Alain de Lille, Jean de Meun, and John Gower', *Chaucer Review* 4 (1970), pp. 203–10

Eggert, Katherine, *Disknowledge: Literature, Alchemy, and the End of Humanism in Renaissance England* (Philadelphia, PA: University of Pennsylvania Press, 2015)

Eisner, Sigmund, 'Chaucer as a Technical Writer', *The Chaucer Review* 19 (1985), pp. 179–201

Epstein, Robert, 'Dismal Science: Chaucer and Gower on Alchemy and Economy', *Studies in the Age of Chaucer* 36 (2014), pp. 209–48

Evans, Michael, 'An Illustrated Fragment of Peraldus's *Summa* of Vice: Harleian MS 3244', *Journal of the Warburg and Courtauld Institutes* 45 (1982)

Faivre, Antoine, *The Golden Fleece and Alchemy* (Albany, NY: State University of New York Press, 1993)

Feingold, Mordechai, 'A Conjurer and a Quack? The Lives of John Dee and Simon Forman', *Huntington Library Quarterly* 68 (2005), pp. 545–59

Fisher, John H., *John Gower: Moral Philosopher and Friend of Chaucer* (New York: New York University Press, 1964)

Fletcher, Clare, '"The science of himself is trewe": Alchemy in John Gower's *Confessio Amantis*', *South Atlantic Review* 79 (2014), pp. 118–31

Forster, Regula, 'The Transmission of Secret Knowledge: Three Arabic Dialogues on Alchemy', *Al-Qantara* 37 (2016), pp. 399–422

Foucault, Michel, 'Qu'est-ce qu'un auteur?', *Bulletin de la Sociéte française de philosophie* 63 (1969), pp. 73–104

Fox, George Gillespie, *The Mediaeval Sciences in the Works of John Gower* (Princeton, NJ: Princeton University Press, 1931)

Frasca-Spada, Marina, and Nick Jardine (eds), *Books and the Sciences in History* (Cambridge: Cambridge University Press, 2000)

Fraser, Kyle A., 'Zosimos of Panopolis and the Book of Enoch: Alchemy as Forbidden Knowledge', *Aries* 4 (2004), pp. 125–47

Frati, Lodovico, 'Poesie alchimistiche attribuite a Jean de Meun', *Archivum Romanicum* 3 (1919), pp. 321–6

Fredell, Joel, 'Alchemical Lydgate', *Studies in Philology* 107 (2010), pp. 429–64

French, Robert Dudley, *A Chaucer Handbook* (New York: F. S. Crofts, 1947)

Freud, Sigmund, *The Interpretation of Dreams*, trans. Joyce Crick (Oxford: Oxford University Press, 1999; repr. 2008)

Fyler, John M., *Language and the Declining World in Chaucer, Dante, and Jean de Meun* (Cambridge: Cambridge University Press, 2007)

Gabrovsky, Alexander N., *Chaucer the Alchemist: Physics, Mutability and the Medieval Imagination* (New York: Palgrave Macmillan, 2015)

Geoghegen, D., 'A License of Henry VI to Practise Alchemy', *Ambix* 6 (1957), pp. 10–17

Getz, Faye Marie, 'To Prolong Life and Promote Health: Baconian Alchemy and Pharmacy in the English Learned Tradition', in *Health, Disease and Healing in Medieval Culture*, ed. Sheila Campbell, Bert Hall, and David Klausner (New York: Palgrave Macmillan, 1992), pp. 141–51

Gilbert, Allan H., 'Notes on the Influence of the *Secretum Secretorum*', *Speculum* 3 (1928), pp. 84–98

Gillespie, Alexandra, 'The Lydgate Canon in Print from 1476 to 1534', *Journal of the English Book Society* 3 (2000), pp. 59–93

Grafton, Anthony, and William R. Newman (eds), *Secrets of Nature: Astrology and Alchemy in Early Modern Europe* (Cambridge, MA: MIT Press, 2001)

Greatrex, Joan (ed.), *Biographical Register of the English Cathedral Priories of the Province of Canterbury (c. 1066 to 1590)* (Oxford: Clarendon Press, 1997)

Green, Richard Firth, 'Changing Chaucer', *Studies in the Age of Chaucer* 25 (2003), pp. 27–52

Grenberg, Bruce L., 'The "Canon's Yeoman's Tale": Boethian Wisdom and the Alchemists', *The Chaucer Review* 1 (1966), pp. 37–54

Grennen, Joseph E., 'Chaucer's "Secree of Secrees": An Alchemical Topic', *Philological Quarterly* 42 (1963), pp. 562–6

—— 'Saint Cecilia's "Chemical Wedding": The Unity of the *Canterbury Tales*, Fragment VIII', *The Journal of English and Germanic Philology* 65 (1966), pp. 466–81

—— 'The Canon's Yeoman and the Cosmic Furnace: Language and Meaning in the "Canon's Yeoman's Tale"', *Criticism* 4 (1962), pp. 225–40

—— 'The Canon's Yeoman's Alchemical "Mass"', *Studies in Philology* 62 (1965), pp. 546–60

Grignaschi, Mario, 'L'origine et les métamorphoses du *sirr al' asrar*', *Archives d'histoire doctrinale et littéraire du moyen âge* 43 (1976), pp. 9–112

Grund, Peter, '*Misticall Wordes and Names Infinite': An Edition and Study of Humfrey Lock's Treatise on Alchemy* (Tempe, AZ: Arizona Center for Medieval and Renaissance Studies, 2011)

Gutas, Dimitri, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early ʿAbbāsid Society (2nd–4th / 8th–10th Centuries)* (London: Routledge, 1998)

Hackett, Jeremiah (ed.), *Roger Bacon and the Sciences* (Leiden: Brill, 1997)

—— 'Roger Bacon', in *A Companion to Philosophy in the Middle Ages*, ed. Jorge J. E. Gracia and Timothy N. Noone (Malden, MA: Blackwell, 2006), pp. 616–25

—— 'Roger Bacon, Aristotle, and the Parisian Condemnations of 1270, 1277', *Vivarium* 25 (Leiden: Brill, 1997), pp. 283–314

Halleux, Robert, 'Les ouvrage alchimique de Jean de Roquetaillade', *Histoire littéraire de la France* 41 (1981), pp. 241–84

Hallum, Benjamin, 'Zosimus Arabus: The Reception of Zosimos of Panopolis in the Arabic/Islamic World' (PhD dissertation, The Warburg Institute, 2008)

Hamilton, George L., 'Some Sources for the Seventh Book of Gower's *Confessio Amantis*', *Modern Philology* 9 (1912), pp. 323–46

Hamilton, Marie P., 'The Clerical Status of Chaucer's Alchemist', *Speculum* 16 (1941), pp. 103–8

Hanning, R. H., 'Telling the Private Parts: "Pryvetee" and Poetry in Chaucer's *Canterbury Tales*', in *The Idea of Medieval Literature*, ed. James M. Dean and Christina K. Zacher (Newark, DE: University of Delaware Press, 1992), pp. 108–25

Harkness, Deborah E., *The Jewel House: Elizabethan London and the Scientific Revolution* (New Haven, CT: Yale University Press, 2007)

—— 'Managing an Experimental Household: The Dees of Mortlake and the Practice of Natural Philosophy', *Isis* 88 (1997), pp. 242–62

Hartung, Albert E., '"*Pars Secunda*" and the Development of the *Canon's Yeoman's Tale*', *The Chaucer Review* 12 (1977), pp. 111–28

Harwood, Britton J., 'Chaucer and the Silence of History: Situating the "Canon's Yeoman's Tale"', *PMLA* 102 (1987), pp. 338–50

Healy, Margaret, *Shakespeare, Alchemy and the Creative Imagination: The Sonnets and 'A Lover's Complaint'* (Cambridge: Cambridge University Press, 2013)

Heffernan, Thomas J., and Thomas E. Burman (eds), *Scripture and Pluralism: Reading the Bible in the Religiously Plural Worlds of the Middle Ages and Renaissance*, Studies in the History of Christian Traditions 123 (Leiden: Brill, 2002)

Herz, Judith Sherer, 'The *Canon's Yeoman's Prologue* and *Tale*', *Modern Philology* 58 (1961), pp. 231–7

Heym, Gerard, 'Al-Rāzī and Alchemy', *Ambix* 1 (1938), pp. 184–91

Hilberry, Jane, 'And in Oure Madnesse Everemoore We Rave: Technical Language in the "Canon's Yeoman's Tale"', *The Chaucer Review* 21 (1987), pp. 435–43

Holmyard, E. J., *Alchemy* (Harmondsworth: Penguin, 1957)

——'Jābir ibn Hayyān', *Proceedings of the Royal Society of Medicine* 16 (1923), pp. 46–57

Hughes, Jonathan, *Arthurian Myths and Alchemy: The Kingship of Edward IV* (Stroud: Sutton Publishing, 2002)

——*The Rise of Alchemy in Fourteenth-Century England: Plantagenet Kings and the Search for the Philosopher's Stone* (London: Continuum, 2012)

Hunter, Andrew, (ed.), *Thornton and Tully's Scientific Books, Libraries, and Collectors: A Study of Bibliography and the Book Trade in Relation to the History of Science* (Aldershot: Ashgate, 2000)

Huot, Sylvia, *Dreams of Lovers and Lies of Poets: Poetry, Knowledge and Desire in the 'Roman de la Rose'* (London: Modern Humanities Research Association and Maney, 2010)

—— *The 'Romance of the Rose' and its Medieval Readers* (Cambridge: Cambridge University Press, 1993)

Hurley, Michael, '"Scriptura Sola": Wyclif and his Critics', *Traditio* 16 (1960), pp. 275–352

Ingham, Patricia, *The Medieval New: Ambivalence in an Age of Innovation* (Philadelphia, PA: University of Pennsylvania Press, 2015)

Irvin, Matthew W., *The Poetic Voices of John Gower: Politics and Personae in the 'Confessio Amantis'* (Cambridge: D. S. Brewer, 2014)

Iser, Wolfgang, *The Implied Reader: Patterns of Communication in Prose Fiction from Bunyan to Beckett* (Baltimore, MD: The Johns Hopkins University Press, 1974)

——'The Reading Process: A Phenomenological Approach', *New Literary History* 3 (1972), pp. 279–99

Jardine, Lisa and Anthony Grafton, '"Studied for Action": How Gabriel Harvey Read His Livy', *Past & Present* 129 (1990), pp. 30–78

Jeauneau, Édouard, 'L'usage de la notion d'*integumentum* à travers les gloses de Guillaume de Conches', *Archives d'histoire doctrinale et littéraire du moyen âge* 32 (1957), pp. 35–100

de Jong, Albert, 'Zosimus of Panopolis', in *Dictionary of Gnosis and Western Esotericism*, ed. Wouter J. Hangegraaf, et al. (Leiden: Brill, 2006), pp. 1183–6

Josipovici, Gabriel, *The World and the Book: A Study of Modern Fiction*, 2nd edn (London: Macmillan, 1979)

Jung, Carl, *Psychologie und Alchemie* (Zurich: Rascher Verlag, 1944)

—— *Psychology and Alchemy*, trans. R. F. C. Hull (London: Routledge & Kegan Paul, 1968)

Kahn, Didier, 'Alchemical Poetry in Medieval and Early Modern Europe: Preliminary Survey and Synthesis, Part I – Preliminary Survey', *Ambix* 57 (2010), pp. 249–74

—— 'Alchemical Poetry in Medieval and Early Modern Europe: Preliminary Survey and Synthesis, Part II – Synthesis', *Ambix* 58 (2011), pp. 62–77

Kassell, Lauren, *Medicine and Magic in Elizabethan London: Simon Forman, Astrologer, Alchemist, and Physician* (Oxford: Clarendon Press, 2005)

—— 'Secrets Revealed: Alchemical Books in Early-Modern England', *History of Science* 49 (2011), pp. 61–87

Keiser, George R., 'The Conclusion of the "Canon's Yeoman's Tale": Readings and (Mis)Readings', *The Chaucer Review* 35 (2000), pp. 1–21

Kendrick, Laura, *Chaucerian Play: Comedy and Control in the Canterbury Tales* (Berkeley, CA: University of California Press, 1988)

Kermode, Frank, *Essays on Fiction: 1971–82* (London: Routledge & Kegan Paul, 1983)

—— *The Genesis of Secrecy: On the Interpretation of Narrative* (Cambridge, MA: Harvard University Press, 1982)

Khoury, Marcelle Muasher, 'The Poetics of Alchemical Engagement: The Allegorical Journey to God in Ripley and Norton after Chaucer' (PhD dissertation, University of Virginia, 2014)

Kirby, Jeremy, *Aristotle's Metaphysics: Form, Matter, and Identity* (London: Bloomsbury Academic, 2008)

Kittredge, George Lyman, 'The Canon's Yeoman's Prologue and Tale', *Transactions of the Royal Society of Literature* 30 (1910), pp. 87–95

Knox, Philip, 'The *Romance of the Rose* in Fourteenth-Century England' (DPhil dissertation, New College, University of Oxford, 2015)

Kraus, Paul, *Jābir ibn Hayyān: Contribution à l'histoire des idées scientifiques dans l'Islam*, 2 vols (Paris: Belles Lettres, 1986)

Kyrtatas, Dimitris J., 'The Meaning of Christian Epiphany', *Illinois Classical Studies* 29 (2004), pp. 205–15

Lakoff, George, and Mark Johnson, *Metaphors We Live By* (Chicago, IL: University of Chicago Press, 1980)

Lambdin, Laura C., and Robert T. Lambdin, 'His Yeman Eek Was Ful of Curteisye', in *An Historical Guide to the Pilgrims in 'The Canterbury Tales'*, ed. Laura C. Lambdin and Robert T. Lambdin (Westport, CT: Greenwood Press, 1996), pp. 357–68

Lammer, Joep, 'From Alexandria to Baghdad: Reflections on the Genesis of a Problematic Tradition', in *The Ancient Tradition in Christian and Islamic Hellenism*, ed. Gerhard Endress and Remke Kruk (Leiden: Research School CNWS, 1997), pp. 181–91

Langlois, Ernest, *Les manuscrits du 'Roman de la rose'* (Lille: Tallandier, 1910)

Le Goff, Jacques, *Money and the Middle Ages: An Essay in Historical Anthropology*, trans. Jean Birrell (Cambridge: Polity Press, 2012)

Linden, Stanton, *Darke Hierogliphicks: Alchemy in English Literature from Chaucer to the Renaissance* (Lexington, KY: University Press of Kentucky, 1996)

Little, A. G. (ed.), *Franciscan Papers, Lists, and Documents* (Manchester: Manchester University Press, 1942)

Longsworth, Robert M., 'Privileged Knowledge: St. Cecilia and the Alchemist in the *Canterbury Tales*', *The Chaucer Review* 27 (1992), pp. 87–96

Lowes, John Livingston, 'The Dragon and his Brother', *Modern Language Notes* 28 (1913), p. 229

Mairey, Aude, 'Entre littérature, science et politique: les oeuvres alchimiques de Thomas Norton et George Ripley', *Revue historique* 658 (2011), pp. 243–63

Manly, John Matthews, *Some New Light on Chaucer: Lectures Delivered at the Lowell Institute* (Boston, MA: Holt, 1926)

Manzalaoui, Mahmoud, 'The Pseudo-Aristotelian *Kitab Sirr al-asrar*: Facts and Problems', *Oriens* 23–4 (1974), pp. 147–257

Masciandro, Nicola, *The Voice of the Hammer: The Meaning of Work in Middle English Literature* (Notre Dame, IN: University of Notre Dame Press, 2007)

Masson, Cynthia, 'Intention to Write, Intention to Teach: Vernacular Poetry and Pedagogy in Thomas Norton's *Ordinal of Alchemy*', *Florilegium* 17 (2000), pp. 45–58

——— 'Text as Stone: Desire, Sex, and the Figurative Hermaphrodite in the 'Ordinal' and 'Compound of Alchemy', in *Sexual Culture in the Literature of Medieval Britain*, ed. Amanda Hopkins, Robert Allen Rouse, and Cory James Rushton (Cambridge: D. S. Brewer, 2014), pp. 111–26

Matus, Zachary, 'Alchemy and Christianity in the Middle Ages', *History Compass* 10 (2012), pp. 934–45

Mayhew, N. J., 'The Monetary Background to the Yorkist Recoinage of 1464–1471', *British Numismatic Journal* 44 (1974), pp. 62–7

——— 'Reconsidering Roger Bacon's Apocalypticism in Light of his Alchemical and Scientific Thought', *Harvard Theological Review* 105 (2012), pp. 189–222

Mazzeo, Joseph A., 'Notes on John Donne's Alchemical Imagery', *Isis* 48 (1957), pp. 103–23

McWebb, Christine, 'Le discours de l'alchimie et l'alchimie du discours dans *Le Roman de la rose* de Jean de Meun', *Epistémocritique*, ed. Donald Bruce and Christine McWebb, *Texte* 43–4 (2009), pp. 79–106

——— 'Lady Nature in Word and Image in Jean de Meun's *Roman de la rose*', *Digital Philology: A Journal of Medieval Cultures* 6 (2017), pp. 67–89

McCraken, Samuel, 'Confessional Prologue and the Topography of the Canon's Yeoman', *Modern Philology* 68 (1971), pp. 289–91

Meale, Carol M., and Derek Pearsall (eds), *Makers and Users of Medieval Books: Essays in Honour of A. S. G. Edwards* (Cambridge: D. S. Brewer, 2014)

Méla, Charles, 'Le Miroir Périlleux ou l'alchimie de la rose', *Europe* 654 (1983), pp. 72–83

Mertens, Michèle, 'Une Scène d'initiation alchimique: La "Lettre d'Isis à Horus"', *Revue de l'histoire des religions* 205 (1988), pp. 3–23

Miernowski, Jan, 'L'"alchimie" du *Roman de la rose* et les limites de l'allégorie', in *Conjunctures: Medieval Studies in Honour of Douglas Kelly*, ed. Keith Busby and Norris J. Lacy (Amsterdam: Rodopi, 1994), pp. 343–57

Minnis, A. J. (ed.), *Gower's 'Confessio Amantis': Responses and Reassessments* (Cambridge: D. S. Brewer, 1983)

——*Magister Amoris: The 'Roman de la Rose' and Vernacular Hermeneutics* (Oxford: Oxford University Press, 2001)

Moureau, Sébastien, '*Elixir atque fermentum*: New Investigations about the Link between Pseudo-Avicenna's Alchemical *De anima* and Roger Bacon: Alchemical and Medical Doctrines', *Traditio* 68 (2013), pp. 277–325

——'Some Considerations Concerning the Alchemy of the *De anima in arte alchemiae* of Pseudo-Avicenna', *Ambix* 56 (2009), pp. 49–56

—— 'Les sources alchimique de Vincent de Beauvais', *Spicae, Cahiers de l'Atelier Vincent de Beauvais* 2 (2012)

Mundkur, Balaji, *The Cult of the Serpent: An Interdisciplinary Survey of its Manifestations and Origins* (New York: State University of New York Press, 1983)

Murray, W. A., 'Why Was Duncan's Blood Golden?', *Shakespeare Survey* 19 (1966), pp. 34–43

Muscatine, Charles, *Chaucer and the French Tradition* (Berkeley, CA: University of California Press, 1957)

Naismith, Rory (ed.), *Money and Coinage in the Middle Ages* (Leiden: Brill, 2018)

Nasr, Seyyed Hossein, *Islamic Science: An Illustrated Study* (Westerham: Westerham Press, 1976)

Neuss, Paula, 'Double-Entendre in the "Miller's Tale"', *Essays in Criticism* 24 (1974), pp. 325–40

Neville, Jennifer, *Representations of the Natural World in Old English Poetry* (Cambridge: Cambridge University Press, 2004)

Newman, William, 'Medieval Alchemy', in *The Cambridge History of Science*, ed. David C. Lindberg and Michael H. Shank (Cambridge: Cambridge University Press, 2013), pp. 385–403

—— *Promethean Ambitions: Alchemy and the Quest to Perfect Nature* (Chicago, IL: University of Chicago Press, 2004)

—— 'Technology and Alchemical Debate in the Late Middle Ages', *Isis* 80 (1989), pp. 423–45

Nicholson, Peter, *Love and Ethics in Gower's 'Confessio Amantis'* (Ann Arbor, MI: University of Michigan Press, 2005)

Norris, John A., 'The Mineral Exhalation Theory of Metallogenesis in Pre-Modern Mineral Science', *Ambix* 53 (2006), pp. 43–65

Nowlin, Steele, 'Gower's Chronicles of Invention: Historiography and Productive Poetry in Book four of the *Confessio Amantis*', *Modern Philology* 110 (2012), pp. 182–201

Nummedal, Tara, 'Alchemy and Religion in Christian Europe', *Ambix* 60 (2013), pp. 311–22

Obrist, Barbara, 'Alchimie et allégorie scripturaire au Moyen Age', in *Allégorie des poètes, Allégorie des philosophes: Études sur la poétique et l'hermeneutique de l'allégorie de l'Antiquitéà la Réforme*, ed. Gilbert Dahan and Richard Goulet (Paris: Vrin, 2005), pp. 245–65

—— 'Art et nature dans l'alchimie médiévale', *Revue d'histoire des sciences* 49 (1996), pp. 215–86

—— *Les Débuts de l'imagerie alchimique (XIVe–XVe siècles)* (Paris: Le Sycomore, 1982)

—— 'Views on History in Medieval Alchemical Writings', *Ambix* 56 (2009), pp. 223–338

Ogrinc, William H. L., 'Western Society and Alchemy from 1200 to 1500', *Journal of Medical History* 6 (1980), pp. 103–32

Olson, G., 'Chaucer, Dante, and the Structure of Fragment VIII (G) of the *Canterbury Tales*', *The Chaucer Review* 16 (1982), pp. 222–36

Omen, Charles, *The Coinage of England* (Oxford: Clarendon Press, 1931)

Owst, G. R., *Literature and Pulpit in Medieval England* (Cambridge: Cambridge University Press, 1933)

Page, Sophie, *Magic in the Cloister: Pious Motives, Illicit Interests, and Occult Approaches to the Medieval Universe* (University Park, PA: Pennsylvania State University Press, 2013)

Parry, Glyn, *The Arch Conjurer of England: John Dee* (New Haven, CT: Yale University Press, 2011)

—— 'John Dee and the Elizabethan British Empire in its European Context', *The Historical Journal* 49 (2006), pp. 243–75

Partington, J. R., 'Albertus Magnus on Alchemy', *Ambix* 1 (1937), pp. 3–20

—— 'The Chemistry of Rāzī', *Ambix* 1 (1938), pp. 192–6

—— *A Short History of Chemistry* (London and New York: Macmillan, 1937)

Patai, Raphael, 'Biblical Figures as Alchemists', *Hebrew Union College Annual* 54 (1983), pp. 195–229

Patterson, Lee, 'Perpetual Motion: Alchemy and the Technology of the Self', *Studies in the Age of Chaucer* 15 (1993), pp. 25–57

Pearsall, Derek, *The Life of Geoffrey Chaucer* (Oxford: Blackwell, 1994)

Peck, Russell A., 'John Gower and the Book of Daniel', in *John Gower: Recent Readings*, ed. R. F. Yeager (Kalamazoo, MI: Medieval Institute, 1989), pp. 159–87

Pereira, Michela, 'Alchemy and the Use of the Vernacular Languages in the Late Middle Ages', *Speculum* 74 (1999), pp. 336–56

—— *The Alchemical Corpus Attributed to Raymond Lull* (London: The Warburg Institute, 1989)

—— '*Mater medicinarum*: English Physicians and the Alchemical Elixir in the Fifteenth Century', in *Medicine from the Black Death to the French Disease*, ed. Roger French, et al. (Aldershot: Ashgate, 1998), pp. 26–52

Plessner, Martin, 'The Place of the *Turba philosophorum* in the Development of Alchemy', *Isis* 45 (1954), pp. 331–8

Poirion, Daniel, 'Guillaume de Lorris, alchimiste et géomètre', *L'Information littéraire* 36 (1984), pp. 6–11

Power, Amanda, *Roger Bacon and the Defence of Christendom* (Cambridge: Cambridge University Press, 2013)

Principe, Lawrence, 'Alchemy Restored', *Isis* 102 (2011), pp. 305–12

——(ed.), *Chymists and Chymistry: Studies in the History of Alchemy and Early Modern Chemistry* (Sagamore Beach, MA: Science History Publications, 2007)

—— *The Secrets of Alchemy* (Chicago, IL: University of Chicago Press, 2013)

Principe, Lawrence, and William Newman, *Alchemy Tried in the Fire: Starkey, Boyle and the Fate of Helmontian Chymistry* (Chicago, IL: University of Chicago Press, 2002)

——'Some Problems with the Historiography of Alchemy', in *Secrets of Nature: Astrology and Alchemy in Early Modern Europe*, ed. William Newman and Anthony Grafton (Cambridge, MA: MIT Press, 2001)

Raby, F. J. E., '*Nuda Natura* and Twelfth-Century Cosmology', *Speculum* 44 (1968), pp. 72–7

Rampling, Jennifer, 'The Alchemy of George Ripley, 1470–1700' (DPhil dissertation, Clare College, University of Cambridge, 2009)

——'The Catalogue of the Ripley Corpus: Alchemical Writings Attributed to George Ripley (d. ca. 1490)', *Ambix* 57 (2010), pp. 125–201

—— 'The Englishing of Medieval Alchemy', *Ambix* 63 (2016), pp. 268–72

——*The Experimental Fire: Inventing English Alchemy, 1300–1700* (Chicago, IL: Chicago University Press, 2020)

—— 'Depicting the Medieval Alchemical Cosmos: George Ripley's *Wheel* of Inferior Astronomy', *Early Science and Medicine* 18 (2013), pp. 45–86

—— 'Establishing the Canon: George Ripley and his Alchemical Sources', *Ambix* 55 (2008), pp. 189–208

—— 'A Secret Language: The Ripley Scrolls', in *Art and Alchemy: The Mystery of Transformation*, ed. Dedo von Kerssenbrock-Krosigk, et al. (Düsseldorf: Hirmer/Museum Kunstpalast, 2014), pp. 38–45

—— 'Transmission and Transmutation: George Ripley and the Place of English Alchemy in Early Modern Europe', *Early Science and Medicine* 17 (2012), pp. 477–99

—— 'Transmuting Sericon: Alchemy as "Practical Exegesis" in Early Modern England', *Osiris* 29 (2014), pp. 19–34

Read, John, *The Alchemist in Life, Literature and Art* (London: Thomas Nelson and Sons, 1947)

—— *Prelude to Chemistry* (London: G. Bell and Sons, 1932)

Reames, Sherry L., 'The Cecilia Legend as Chaucer Inherited it and Retold it: The Disappearance of an Augustinian Ideal', *Speculum* 55 (1980), pp. 38–57

Reidy, John, 'Chaucer's Canon and the Unity of "The Canon's Yeoman's Tale"', *PMLA* 80 (1965), pp. 31–7

Remes, Pauliina, *Neoplatonism* (Stocksfield: Acumen, 2008)

Richards, I. A., *The Philosophy of Rhetoric* (London: Oxford University Press, 1936; repr. New York: Galaxy Books, 1965)

Richardson, H. G., 'Year Books and Plea Rolls as Sources of Historical Information', *Transactions of the Royal Historical Society* 5 (1922), pp. 37–40

Robert, C.-M., 'Lettre à l'éditeur', *Bulletin du bibliophile* 1 (1836), pp. 19–22

Robertson, Kellie, *Nature Speaks: Medieval Literature and Aristotelian Philosophy* (Philadelphia, PA: University of Pennsylvania Press, 2017)

Roger, Euan, 'Pars Secunda: A New Identification', *Chaucer Review* 54 (2019), pp. 464–81

de Rola, Stanislas Klossowski, *Alchemy: The Secret Art* (London: Thames & Hudson, 2013)

Romanyshyn, Robert, *The Wounded Researcher: Research with Soul in Mind* (New Orleans, LA: Spring Journal Books, 2007)

Roob, Alexander, *Alchemy and Mysticism*, trans. Shaun Whiteside (Cologne: Taschen, 1997)

Rosenberg, Bruce, 'Swindling Alchemist, Antichrist', *The Centennial Review* 6 (1962), pp. 566–80

Ruska, Julius, 'Chaucer und das Buch Senior', *Anglia: Zeitschrift für englische Philologie* 61 (1937), pp. 136–7

Ruska, Julius, and Eilhard Wiedemann, 'Alchemistische Decknamen', *Sitzungsberichten der Physikalisch-Medizinischen Sozietät* 56 (1924), pp. 17–35

Robbins, Rossell Hope, 'Alchemical Texts in Middle English Verse: Corrigenda and Addenda', *Ambix* 13 (1966), pp. 62–72

Runstedler, Curtis, 'Alchemy and Exemplary Narrative in Middle English Poetry' (PhD dissertation, Durham University, 2018)

Ryan, Lawrence V., 'The Canon's Yeoman's Desperate Confession', *The Chaucer Review* 8 (1974), pp. 297–310

Sadlek, Gregory M., *Idleness Working: The Discourse of Love's Labor from Ovid through Chaucer and Gower* (Washington, DC: The Catholic University of America Press, 2004)

—— 'John Gower's *Confessio Amantis*: Ideology and the "Labor" of "Love's Labor", in *Re-Visioning Gower*, ed. R. F. Yeager (Asheville, NC: Pegasus Press, 1998), pp. 147–58

Salter, Elizabeth, 'England and the Continent During the Thirteenth Century: Royal and Aristocratic Patronage', in *English and International: Studies in the Literature, Art, and Patronage of Medieval England*, ed. Derek Pearsall and Nicolette Zeeman (Cambridge: Cambridge University Press, 1988), pp. 75–100

Sawyer, Daniel, *Reading English Verse in Manuscript, c. 1350–c. 1500* (Oxford: Oxford University Press, 2020)

Schoonheim, Pieter L., *Aristotle's 'Meteorology' in the Arabico-Latin Tradition* (Leiden: Brill, 2000)

Schuler, Robert M., *English Magical and Scientific Poems to 1700* (New York: Garland, 1979)

—— 'The Renaissance Chaucer as Alchemist', *Viator* 15 (1984), pp. 305–33

Simpson, James, *Sciences and the Self in Medieval Poetry: Alain of Lille's 'Anticlaudianus' and John Gower's 'Confessio Amantis'* (Cambridge: Cambridge University Press, 1995)

Singer, Dorothea Waley, 'Alchemical Writings Attributed to Roger Bacon', *Speculum* 7 (1932), pp. 80–6

——*Catalogue of Latin and Vernacular Alchemical Manuscripts in Great Britain and Ireland Dating from before the Sixteenth Century*, 3 vols (Brussels: Maurice Lamertin, 1928–31)

Sisk, Jennifer L., 'Religion, Alchemy, and Nostalgic Idealism in Fragment VIII of the Canterbury Tales', *Studies in the Age of Chaucer* 32 (2010), pp. 151–77

Smilie, Ethan, '*Goddes Pryvetee* and a *Wyf*: *Curiositas* and the Triadic Sins in the Miller's and Reeve's Tales', *Christianity and Literature* 65 (2015), pp. 4–26

Stapleton, H. E., 'Two Alchemical Treatises Attributed to Avicenna', *Ambix* 10 (1962), pp. 41–82

Starr, Peter, 'Towards a Context for Ibn Umayl, Known to Chaucer as the Alchemist Senior', *Çankaya Üniversitesi Fen-Edebiyat Fakültesi, Journal of Arts and Sciences* 11 (2009), pp. 61–77

Steiner, George, 'On Difficulty', *The Journal of Aesthetics and Art Criticism* 36 (1978), pp. 263–76

Stock, Brian, *Myth and Science in the Twelfth Century: A Study of Bernard Silvester* (Princeton, NJ: University of Princeton Press, 1972)

Symonds, H., 'Mint Accounts and Documents of Edwayd IV', *The Numismatic Chronicle* 6, 5th series (1926), pp. 99–112

Sźonyi, György E., *John Dee's Occultism: Magical Exaltation through Powerful Signs* (Albany, NY: State University of New York Press, 2004)

Tambling, Jeremy, *Allegory* (New York: Routledge, 2010)

Taylor, F. Sherwood, 'A Survey of Greek Alchemy', *The Journal of Hellenic Studies* 50 (1930), pp. 109–39

Telle, Joachim, *Alchemie und Poesie: Deutsche Alchemikerdichtungen des 15. bis 17. Jahrhunderts* (Berlin: De Gruyter, 2013)

Theisen, Wilfrid, 'The Attraction of Alchemy for Monks and Friars in the Thirteenth–Fourteenth Centuries', *American Benedictine Review* 46 (1995), pp. 239–53

Thomas, D. H., *The Herberts of Raglan and the Battle of Edgecote 1469* (Enfield: Freezywater Publications, 1994)

Thomas, Keith, *Religion and the Decline of Magic: Studies in Popular Beliefs in Sixteenth- and Seventeenth Century England* (London: Weidenfeld & Nicolson, 1971)

Thompson, Daniel V., *The Materials and Techniques of Medieval Painting* (New York: Dover Publications, 1956)

Thorndike, Lynn, *History of Magic and Experimental Science*, 8 vols (New York: Columbia University Press, 1923–58)

Timmermann, Anke, 'Alchemy in Cambridge: An Annotated Catalogue of Alchemical Texts and Illustrations in Cambridge Repositories', *Nuncius* 30 (2015), pp. 345–511

—— 'New Perspectives on "The Chaucer Ascription in Trinity College, Dublin MS. D.2.8"', *Ambix* 53 (2006), pp. 161–5

—— 'Scientific and Encyclopedic Verse', in *A Companion to Fifteenth-Century English Poetry*, ed. Julia Boffey and A. S. G. Edwards (Cambridge: D. S. Brewer, 2013), pp. 199–212

—— *Verse and Transmutation: A Corpus of Middle English Alchemical Poetry* (Leiden: Brill, 2013)

Todd, Richard, 'Alchemical Poetry in Almohad Morocco: The *Shudhūr al-dhahab* of Ibn Arfa' Ra's', *Oriens* 44 (2016), pp. 116–44

Turner, Wendy J., 'The Legal Regulation and Licensing of Alchemy in Late Medieval England', in *Law and Magic: A Collection of Essays*, ed. Christine A. Corcos (Durham, NC: Carolina Academic Press, 2010), pp. 209–25

——'London Businessmen and Alchemists: Raising Money for the Hundred Years War', in *The Hundred Years War (Part III): Further Considerations*, ed. L. J. Andrew Villalon and Donald J. Kagay (Leiden: Brill, 2013), pp. 333–54

Vernet, André, 'Jean Perréal et la *Complainte de Nature* attribuée à Jean de Meun', *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres* 87 (1943), pp. 93–100

—— 'Jean Perréal, Poète et Alchimiste', *Bibliothèque d'Humanisme et Renaissance* 3 (1943), pp. 214–52

Wakelin, Daniel, *Humanism, Reading, and English Literature 1430–1530* (Oxford: Oxford University Press, 2007)

Walker, Frederic, 'Geoffrey Chaucer and Alchemy', *The Journal of Chemical Education* 9 (1932), pp. 1378–85

—— 'Jean de Meun and Alchemy', *The Journal of Chemical Education* 7 (1930), pp. 2863–74

Walling, Amanda, 'The Authority of Impersonation: Gower's *Confessio Amantis* and the *Secretum Secretorum*', *Viator* 47 (2016), pp. 343–64

Watson, Nicholas, 'Censorship and Cultural Change in Late-Medieval England: Vernacular Theology, the Oxford Translation Debate, and Arundel's Constitutions of 1409', *Speculum* 70 (1995), pp. 822–64

Webster, Charles, 'Alchemical and Paracelsian Medicine', in *Health, Medicine, and Mortality in the Sixteenth Century*, ed. Charles Webster (Cambridge: Cambridge University Press, 1979), pp. 301–34

Wei, Ian, *Intellectual Culture in Medieval Paris: Theologians and the University, c. 1100–1330* (Cambridge: Cambridge University Press, 2012)

Wetherbee, Winthrop, 'Classical and Boethian Tradition in the *Confessio Amantis*', in *A Companion to Gower*, ed. Siân Echard (Cambridge: D. S. Brewer, 2004), pp. 181–96

White, David Gordon, *The Alchemical Body: Siddha Traditions in Medieval India* (Chicago, IL: University of Chicago Press, 1996)

Whitman, Jon, *Allegory: The Dynamics of an Ancient and Medieval Technique* (Oxford: Clarendon Press, 1987)

Williams, Steven J., 'Roger Bacon and his Edition of the Pseudo-Aristotelian *Secretum secretorum*', *Speculum* 69 (1994), pp. 57–73

—— *The Secret of Secrets: The Scholarly Career of a Pseudo-Aristotelian Text in the Latin Middle Ages* (Ann Arbor, MI: University of Michigan Press, 2003)

Wilson, Malcolm, *Structure and Method in Aristotle's 'Meteorologica': A More Disorderly Nature* (Cambridge: Cambridge University Press, 2013)

Wogan-Browne, Jocelyn, Nicholas Watson, Andrew Taylor, and Ruth Evans (eds), *The Idea of the Vernacular: An Anthology of Middle English Literary Theory, 1280–1520* (Exeter: University of Exeter Press, 1999)

Yeager, R. F., *John Gower's Poetic: The Search for a New Arion* (Cambridge: D. S. Brewer, 1990)

Zayaruznaya, Anna, *The Monstrous New Art: Divided Forms in the Late Medieval Motet* (Cambridge: Cambridge University Press, 2015)

Ziolkowski, Theodore, *The Alchemist in Literature: From Dante to the Present* (Oxford: Oxford University Press, 2015)

Index