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Chymical Collections: Seventeenth Century textual transmutations in the work of Arthur Dee

Megan Piorko

CHYMICAL COLLECTIONS: SEVENTEENTH-CENTURY TEXTUAL TRANSMUTATIONS IN THE WORK OF ARTHUR DEE

by

MEGAN PIORKO

Under the Direction of Nick Wilding, PhD

ABSTRACT

This dissertation is a biography of a text, *Fasciculus Chemicus* (1631). The seventeenth-century life of this text, from its inception to its vernacularization, sheds light on broader natural philosophical and textual issues inherent to alchemical knowledge-making. The first chapter of this case-study is a survey of all available biographical information of its author, Arthur Dee, supplemented and contextualized with original primary source discoveries. This provides a setting for the creation of *Fasciculus Chemicus* as well as juxtaposes political issues of authority, patronage, and medical practice of a seventeenth-century courtly physician. The second chapter addresses the hand-press production and subsequent intentional anomalies found in the printed *Fasciculus Chemicus,* of which there are two editions (1631, 1650). Then, a bibliographical

description and analysis is provided for the three issues of the first edition, which leads into investigations of ghost editions and a special dedicatory Rosicrucian issue. The third chapter examines the possibility of an alchemical scribal culture through the lens of scribal copies of *Fasciculus Chemicus* and other seventeenth-century alchemical manuscripts copies from print. This presents the reciprocal nature of material reuse and recycling between manuscript and hand-press texts. The fourth chapter deals with material evidence of alchemical speculation in the margins of seventeenth-century alchemical texts such as drawings and doodles, creative cross-referencing, and ciphers and pseudonomia. The epilogue to the story of the seventeenth-century life of *Fasciculus Chemicus* responds to issues of English vernacularization and curation of knowledge through the scope of 'chymical collections' such as *Theatrum Chemicum* (1602-1661) and *Theatrum Chemicum Britannicum* (1652). This allows for broader questions to be posed regarding Baroque science and alchemical knowledge-making practices.

INDEX WORDS: *Fasciculus Chemicus*, Arthur Dee, Materiality of text, History of alchemy, Courtly medicine, Knowledge creation

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INTRODUCTION

This project tells the story of a seventeenth-century text, *Fasciculus Chemicus* (1631), and the ways in which it exemplifies and problematizes the history of alchemy, the history of the book, and their intersections. This project was conceptualized thanks to a few curious material additions and alterations to the hand-press *Fasciculus Chemicus* that provoked larger historical questions such as, 'what can material evidence tell us about seventeenth-century alchemical textual publication, use, and reuse' and 'how is alchemical knowledge production materially represented in seventeenth-century texts'. Over thirty extant copies of *Fasciculus Chemicus* have been examined as well as other seventeenth-century alchemical texts from over twenty libraries around the world in an attempt to address these questions. What resulted is a case-study analysis that follows the seventeenth-century transmutations of *Fasciculus Chemicus* from its authorial conception, to multiple hand-press issues, manuscript copies, readership reception, and finally its English vernacularization. The history of alchemy is inextricable from the history of the book, and the alchemical library is tied to laboratory practices. This project is a biography of a text, but it is important to acknowledge that humans make texts. The aim of this dissertation is to find the human agency through the material evidence of knowledge-production in seventeenth-century alchemical texts.

This dissertation is situated at the nexus of history of science and the history of the book. Alchemy is frequently found at this historiographical intersection. Arthur Dee's father, John Dee, and his famous alchemical library have been studied in depth over the past twenty years within the context of print, readership practices, and alchemy, particularly by scholars such as William

Sherman and Stephen Clucas.[1] This type of bibliographical alchemical scholarship has shaped the history of alchemy by demonstrating the ways in which the library and the laboratory are conjoined spaces. Additionally, in the last few decades the practical experimentation aspects of alchemy have been rescued from the Victorian designation of 'occult' by illustrating the ways in which esoteric allegorical texts were used literally and instructively for practical alchemical experimentation.[2]

The history of science more broadly has seen a change over the past half-century due in large part to Thomas Kuhn's paradigm shifting book, *The Structure of the Scientific Revolutions* (1962). In the 60s and 70s the history of science expanded beyond a teleological, Eurocentric intellectual history narrative to include subfields such as gender, sociology of knowledge, and popular culture.[3] This has allowed for subjects previously considered only for their 'proto-science' qualities, such as alchemy and astrology, to be studied in their proper early modern historical context of natural philosophy. This was pioneered in the 60s by Dame Frances Yates as a case study of renaissance intellectual Giordano Bruno in which she investigated the hermetic aspects of his belief systems as integral to his natural philosophy, pushing back against the traditional approach of the history of science as solely perpetuating the development of modern science.[4] Recent strategies aim to understand human engagement with nature more broadly.[5] The investigation into both the medical, or Paracelsian, modes of iatrochemistry as well as English practical alchemical thought has been canonized by Allen Debus and popularized by Deborah

[1] See William Sherman's *John Dee: The Politics of Reading and Writing in the English Renaissance* (1995) and Stephen Clucas' edited volume, *John Dee: Interdisciplinary Studies in English Renaissance Thought* (2006).
[2] See Lawrence Principe and William Newman's *Alchemy Tried in the Fire: Starkey, Boyle, and the Fate of Helmontian Chymistry* (2002).
[3] Smith, "Science on the Move," 346.
[4] See Frances Yates' *Giordano Bruno and the Hermetic Tradition* (1964).
[5] Smith, "Science on the Move," 349.

Harkness.[6] The expansion of the limitations of what can be considered scientific knowledge has allowed alchemy to be investigated as an intellectual and cultural phenomenon that was easily reconciled within the early modern worldview.

While most examples of the history of alchemy address the book either explicitly or implicitly, as it is near impossible to extricate alchemy and text, book history has an autonomous tradition that has influenced this dissertation project. According to Robert Darnton, the purpose of book history is "to understand how ideas were transmitted through print and how exposure to the printed word affected the thought and behavior of mankind during the last 500 years."[7] It certainly impacted early modern scientific thought and alchemical knowledge-making. Bibliography is uniquely important to the history of alchemy because the hand press was as integral to alchemical practice as experimentation. Understanding the influence of texts on creating and spreading alchemical knowledge is imperative to the historical study of the scientific practice of alchemy.

The study of history through books as human-made objects was pioneered in *L'apparition du livre* (1958), a text by Lucien Febvre and H. J. Martin as part of the *Annales* school of social history.[8] This new approach to history overlapped with an older antiquarian tradition of bibliographical description. Together, these two methods of textual analysis influenced a Dartonian history of communication, which deals with actors and cultural history rather than texts themselves, and conversely, the study of books as cultural artifacts.[9] The sub-field of book history defined itself in the 80s through the popularization of Elizabeth Eisenstein's

[6] See Allen Debus' *The English Paracelsians* (1965) and Deborah Harkness' *The Jewel House: Elizabethan London and the Scientific Revolution* (2007).
[7] Darnton, "What Is the History of Books?," 65.
[8] Adams and Barker, "A New Model for the Study of the Book," 5.
[9] See David Pearson's *Books as History: The Importance of Books Beyond their Texts* (2008).

The Printing Press as an Agent of Change, where she argues that paradigm shifting movements of western civilization such as the renaissance and the reformation were products of the advent of the Gutenberg hand press, solidifying the connection between textual history and the early modern period.[10] The sociological and bibliographical aspects of the history of the book merge in the recent work of Anthony Grafton and Ann Blair on histories of hand-press production and its social and cultural implications.[11] This project situates itself as continuing this tradition of treating the book as a vessel of knowledge containing material evidence of production, use, and reuse.

In this dissertation new evidence concerning Arthur Dee's 1631 alchemical text, *Fasciculus Chemicus*, has been analyzed through bibliographical description and the material evidence of knowledge-creation. Today, the historical discourse surrounding the study of alchemy promotes looking beyond a literary analysis of alchemical tracts to the materiality of the book as an object that was integral to the early modern experimental world. The term "chymical collection" comes from Elias Ashmole's 1650 English translation of Arthur Dee's Latin *Fasciculus Chemicus*. For this project it can be broadly defined as an early modern genre of natural philosophical text in which (al)chemical knowledge is organized, resulting in the creation of new knowledge. Scholars such as Didier Kahn and Carlos Gilly have worked to delineate the early predecessors of this alchemical bibliographical movement in the fifteenth and sixteenth centuries.[12] As with most hand-press phenomena, the practice of organizing alchemical knowledge comes out of a long manuscript tradition. However, the advent of the printing press

[10] See Adrian Johns' rebuttal to this theory in *The Nature of the Book: Print and Knowledge in the Making* (1998).
[11] See Anthony Grafton's *Inky Fingers: The Making of Books in Early Modern Europe* (2020) and Ann Blair's *Too Much to Know* (2010).
[12] See Didier Kahn's *Alchimie et Paracelsisme en France a la Fin de la Renaissance (1567-1625)* (2007) and Carlos Gilly's "On the Genesis of L. Zetzner's Theatrum Chemicum in Strasbourg" in *Magia, alchimia, scienza dal '400 al '700. L'influsso di Ermete Trismegisto* (2005).

allowed for the evolution of certain aspects of chymical collections. For example, the canonization of specific medieval alchemical authors and pseudo-authors as prominent textual authorities as well as printed lists of tracts which guide the reader using page numbers in order to navigate the overwhelming amount of alchemical information. Both Jennifer Rampling and Lauren Kassell have done important work to identify and analyze the impact of the English alchemical textual legacy.[13]

This dissertation project is made up of four chapters and a conclusion. Each section addresses an aspect of seventeenth-century alchemical knowledge-creation and production through the lens of Arthur Dee, *Fasciculus Chemicus*, and adjacent seventeenth-century chymical collections. These chapters focus on specific issues inherent in seventeenth-century alchemical experimental thought and its material textual evidence. The first chapter introduces Arthur Dee as author but also investigates his professional career as a royal physician and how this informed his alchemy through the medical notebook that he shared with his father. The second chapter unpacks the technical bibliographical aspects of the 1631 Latin *Fasciculus Chemicus*, the intentional hand-press anomalies found in this edition, and the subsequent implications for Arthur Dee's alchemical knowledge network and his connections to the Brotherhood of the Rosy Cross. The third chapter examines the relationship between seventeenth-century alchemical scribal and print culture through the lens of manuscript copies of *Fasciculus Chemicus* including Arthur Dee's manuscript *Arca Arcanorum*. The focus of the fourth chapter is reception of *Fasciculus Chemicus* and adjacent seventeenth-century chymical collections through analysis of material evidence of speculation found in the hand-press texts.

[13] See Lauren Kassell's "Secrets Revealed: Alchemical Books in Early-Modern England" and Jennifer Rampling's *The Experimental Fire: Inventing English Alchemy 1300–1700* (2020).

The project concludes with an epilogue to the seventeenth-century life of *Fasciculus Chemicus* and posits broader questions that this dissertation initiates and could warrant further investigation.

1 THE ROYAL PHYSICIAN ARTHUR DEE

This chapter provides a narrative of Arthur Dee's life based on previously known extant sources as well as new documentary evidence, concentrating on his career as a royal physician. It will also unpack and contextualize the medical notebook that he shared with his famous father, John Dee. Polymath John Dee has been examined in the historical contexts of science, bibliography, mathematics and navigation, and magic and spiritualism. Any scholar dealing with hermeticism must reckon with John Dee as some point, including pioneers of the field such as Frances Yates and Peter French. Entire colloquia are devoted to John Dee, as he has left historians a plethora of material to examine including a meticulously kept diary and a contemporaneously famous library filled with his own marginalia. However, this dissertation is about his eldest son, and therefore John Dee will be examined through the lens of a father and mentor.

In order to center Arthur Dee in his own story, rather than his father, this chapter examines the relatively few biographical sources on Arthur Dee to understand his life as the child of a famous alchemist and his career as an early modern physician. The addition of previously undocumented and understudied sources, such as his official doctoral documents and medical notebook, flesh out his life story and pose broader questions about the nature of medical alchemy during the seventeenth century. How did John Dee's alchemical pursuits impact Arthur's childhood and alchemical career? What kind of education was required of a seventeenth-century doctor, and how was alchemical medicine put into practice? What was the experience of an English court physician working abroad in Russia? The documents of Arthur Dee's life shed light on these early modern experiences.

Growing Up Alchemical

Arthur Dee was born on July 13, 1579 to John Dee and Jane (Fromond) Dee in Mortlake, Surrey, on the very same day of the year as his father.[14] That the two shared a birthday, and thus astrological signs, would have been meaningful to John and likely contributed to his investment in Arthur's alchemical trajectory, which is markedly focused on Arthur above any other children. John Dee immediately drew his firstborn son's horoscope, along with a dark premonition for his life. John prophesized that Arthur would have good fortune with a prince but die a violent death abroad.[15] A second dark omen hung over Arthur entering the world. In a strange coincidence his maternal grandfather died within twenty-four hours of Arthur's birth.[16] Despite the morbid significance mapped onto Arthur's birthday by his father, he trained him in the art of alchemy from a young age, while there is no evidence of him giving this type of attention to his other children.

On September 21, 1583 the entire Dee family (John, Jane, Arthur, and his siblings) left Mortlake to sojourn to Hungary on two ships in the company of Lord Albert Lasky, Edward Kelly, and their wives.[17] On this six-year alchemical expedition young Arthur was treated as his father's alchemical progeny. John Dee and Edward Kelly trained him in the art of scrying in the hopes that he would take Edward's place as medium to the angelic spirits, as suggested by the angels themselves. However, after a few attempts from a nine year old Arthur resulting in some "small and inconsiderable" visions, Kelley declared that his own gift was still thriving and resumed his role as primary scryer.[18] As an adult, Arthur writes about witnessing his father's

[14] Figurovski, "The Alchemist and Physician Arthur Dee," 42.
[15] Sloane MS 1902, fol. 28r.
[16] Dee, *The Private Diary of Dr. John Dee and the Catalog of his Library of Manuscripts*, 6.
[17] Dee, *The Private Diary of Dr. John Dee and the Catalog of his Library of Manuscripts*, 21.
[18] Josten, *Elias Ashmole*, 4:1758.

interactions with angels and successful alchemical transmutations at a young age, and how that impressed upon him the sincerity of John's alchemical talents and achievements.[19]

Arthur wanted to play games like any child does, but as the son of an alchemist his games were played with pieces of alchemical gold and silver. A short biography of Arthur Dee in the front flyleaves of his scribal copy of *Benjamin Lock his Picklock to Riply his Castle* (Wellcome MS 436) claims that as a child, Arthur played with gold created by his father through the alchemical process of transmutation.[20] A second account in a letter from Arthur's good friend Sir Thomas Browne to Elias Ashmole claims that Arthur played the game of quoits with silver pieces made by alchemical projection.[21] His father's alchemical endeavors permeated all aspects of Arthur's childhood, and clearly had a great impact on his own alchemical career.

John Dee returned to England with his family in 1589 after six years abroad, and three years later Arthur began his formal education at Westminster school.[22] Arthur was proficient in a number of languages from his travels with his father including German, French, Hungarian, English, Polish, and Czech.[23] Additionally, he learned Latin and Greek in school, which would serve him in his international career as a courtly physician as well as reading and writing alchemical texts. On June 18, 1600 John Dee and his family relocated to Manchester and on December 2 Arthur was given grant of the chapter clerkship of the Collegiate Church (now the Manchester Cathedral).[24]

Two years later the earliest extant archival evidence of Arthur's alchemical proclivities can be seen in his manuscript copy of *Benjamin Lock his Picklock to Riply his Castle*, which he

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[19] Dee, *Arca Arcanorum,* preface.
[20] Possibly written by Sir Thomas Browne, a former owner and friend of Arthur Dee.
[21] Josten, *Elias Ashmole*, 4:1371-3.
[22] Dee, *The Private Diary of Dr. John Dee and the Catalog of his Library of Manuscripts,* 40.
[23] Figurovski, "The Alchemist and Physician Arthur Dee," 42.
[24] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 1.

copied and added a personal dedication signed June 6, 1602. Dee included an alchemical poem at the end titled "Amen, his hunting of the Greene Lyon" in reference to the esoteric transmutative process symbolizing vitriol purifying base metals into gold. This alchemical tract would have been important to Arthur for a number of reasons, namely that Benjamin Lock was a student of John Dee's and Arthur desired to emulate his father's alchemical success.[25] Additionally, the title of the text references medieval English alchemist George Ripley, who was extremely influential to Arthur's own alchemical success. This can be gleaned from the hand-painted Ripley Scroll emblem across from the title page of *Arca Arcanorum*, the manuscript Arthur wrote to commemorate his successful execution of the Philosophers' Stone.

The same year that he copied Lock's *Picklock*, Arthur also prepared to wed. To this end, he enlisted the assistance of mentor and colleague Richard Napier in creating a horoscope to answer the question of: "wheath^[r] he shall obtayne his wifes Dowry not w^[th]out brabell" (May 20 1602 at 4pm). This transaction is one of many cases of Mr. Napier treating patients by drawing astrological horoscopes in his casebook, which was recently published as a digital project by the University of Cambridge.[26] The editors of the digital casebook project reported that 90% of the cases were medical. Interestingly, Arthur falls outside this trend, instead asking both a familial and financial question. In any case he must have obtained his wife's dowry, as Arthur Dee and Isabella Prestwich married that same year when she was 19 years old. Isabella was the daughter of Manchester Justice of the Peace and the couple had twelve children together. Arthur and Isabella's first child was baptized the following year at the Collegiate Church in Manchester on April 6, 1603.[27] Thanks to his father's generous donation of the following texts,

[25] Appleby, "Arthur Dee and Johannes Banfi Hunyades," 104.
[26] Kassell, Hawkins, Ralley, Young, Edge, Martin-Portugues, and Kaoukji, *The casebooks of Simon Forman and Richard Napier, 1596–1634*, CASE16969.
[27] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 1.

The British Monarchy als the Pettie Navye Roiall, Propaedumata Aphoristica, Monas Hieroglyphica, and *a letter Apologeticall*, Arthur became a freeman of the Mercer's company in 1605. The very next month, on March 23, his mother Jane died of the plague and was buried.[28]

Arthur's tribulations were far from over, and the trials just beginning. The year 1606 would begin an arduous ten-year investigation into Arthur's medical practice by the Royal College of Physicians. The first time that the College summoned Dee was on April 4, in response to a broadsheet he posted to advertise his medical remedies which he claimed would "cure many diseases." Although the College thought that it "savoured of trickery", they decided to wait to convene on the matter until Dee could present his "medicaments" to the jury so that they could decide the medical properties for themselves.[29] But before Dee could defend himself and his medicaments in court, his father died in 1608 in his home in Mortlake.[30] That same year one of Arthur's children was baptized at the Collegiate Church.[31]

Authentication of Arthur Dee's Medical Degree

Arthur Dee missed both of these important life events while he was studying medicine abroad at the University of Basel, where he was awarded a *Doctoratus in Arte Medica*.[32] The earliest references to Arthur's medical degree from Basel are limited to secondary sources from the *Annals of the Royal College of Physicians*. However, there are multiple contemporary accounts of Arthur Dee attending Oxford. The brief biography of Arthur at the beginning of the *Picklock* manuscript also claims that "He was educated at the University of Oxford."[33] Elias Ashmole similarly placed Arthur at Oxford in a letter to Anthony Wood, "But Mr: Lightfoots

[28] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 2.
[29] *Annals of the Royal College of Physicians,* I-II: 182-183.
[30] Appleby, "Dr. Arthur Dee: Merchant and Litigant," 33.
[31] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 1.
[32] SLUB Dresden (1.B.3963,286.b.)
[33] Wellcome MS 436, fol. 3r.

Testimony is enough for you to place him [Arthur Dee] at Oxford."[34] Additionally, Arthur Dee is listed as an alumnus in the *Alumni Oxonienses* 1500-1714. Anthony Wood compiled this list and described Arthur's education based on his son's account rather than Ashmole's

> "after he had spent some time there [Westminster], he was sent to the univ. of Oxon, as his son Rowl. Dee, and one or more persons of Norwich … who knew Arth. Dee very well, have informed me, but what coll. or hall he was entred and settled, they could not tell me, nor indeed doth the matricula mention it."[35]

Thus, there is either a conflation between Arthur and Oxford that goes back to his lifetime, or he did study there for a time without completing his degree.

Arthur must have had some connection to Oxford, because he dedicated his manuscript *Arca Arcanorum* to the Bodleian Library, "And in the same faith, hope and love we have committed this little gift to the safe custody of the Muses and have locked in your archives the secret of the whole of nature, Farewell."[36] However, there are three extant sources that confirm that Arthur was at the University of Basel and completed a doctorate in medicine in 1609, which is corroborated by the date listed on his degree according to the *Annals of the Royal College of Physicians*. The first, an announcement of Arthur Dee's thesis from University of Basel 1609 is currently housed at Saxon State and University Library Dresden (1.B.3963,286.b.). The information on the degree matches the description in the Royal College of Physicians' annals and the decorative type ornaments can be found on other materials from the same print house, further authenticating the document (Figure 1). Another newly discovered document printed for the University of Basel in 1609, currently housed at the University's Library (KiAr H III 54:27),

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[34] Josten, *Elias Ashmole*, 4:1775.
[35] Wood, *Athenae Oxonienses*, 286.
[36] Dee, *Arca Arcanorum*, preface. Translated by Appleby in "Arthur Dee and Johannes Banfi Hunyades," 101.

contains a Latin poem about graduating from medical school signed "Arthurus Dee Mortacensis Anglus Phil. & Med. Doct." (Figures 2 and 3).[37] The previous document and this document connect Arthur Dee to Swiss figures in the history of medicine such as Felix Platter (listed on Dee's degree) and Caspar Bauhin.[38] Finally, he is mentioned in University of Basel's matriculation records as *Mediziner und Alchimist* and lists him as studying medicine there in 1609.[39]

Rather than the previous charge concerning Dee's medicaments, the Royal College of Physicians focused their skepticism on Dee's education as a learned doctor with proper training, making an official accusation against him in 1612. They accused Dee and nine other "Doctors of Medicine" of illicit practice. Two doctors from English universities and two from foreign ones were indicted, including Dee. However, Dee did not physically appear in court until January 13, 1614, to dispute the charge of not having ever attended the court after being repeatedly summoned, which he "flatly denied". He also defended his medical practice "that medicine was his profession and that as he could make a business out of it, he ought to follow it". He continued, asking the court to prove to him that their interference into his practice was warranted. He claimed to have been present at the College three years prior and accused that the College "connived at similar practice by others", naming Doctors Moore and Turner and other apothecaries. The College responded by sending Arthur Dee away "more mercifully", citing his family as the reason. They required that Dee return and "make peace" or be indicted and forbade him from practicing until that time.[40]

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[37] University of Basel Library (KiAr H III 54:27)
[38] Bauhin was a botanist who developed a pre-Linnaean classification in his text, *Pinax theatri botanici* (1623). Platter was a Swiss physician and professor known for his knowledge of anatomy and psychiatry.
[39] *Die Matrikel Der Universität Basel,* III: 131.
[40] *Annals of the Royal College of Physicians,* III:38.

Arthur did return to court a month later on February 3 1614, to present the College with his "very beautifully written letters patent from the University of Basle and dated May 4 1609".[41] Later that year, on July 16, Arthur Dee was elected physician to Thomas Sutton's proposed hospital at the Charterhouse, however, Dee never served in this capacity. Instead, Mr. Thomas Barker became physician to the hospital.[42] Although it is clear the English medical community found Dee's practice legitimate enough to offer him an official post, his trials at the Royal College of Physicians were not over. On May 6, 1615 Dee took a final stance against what he viewed as an insulting and egregious affair, "declaring that he was the Queen's physician" and that he had the right to practice medicine "by the royal prerogative".[43] The 'Queen' Dee is referencing would have been Anne of Denmark.

From this account from the "Annals of the Royal College of Physicians", it would appear that the only legitimizing factor for Dee's medical practice was his royal service; not his famous father, nor his medical degree from the University of Basel, nor his professional clout. From this experience, Arthur Dee learned to draw upon royal authority to legitimize his alchemy. He used the names of his royal patrons to produce his texts and complete his lifelong alchemical achievement of the Philosophers' Stone. It's clear from Arthur's writing that his true passions were his own personal alchemical endeavors, rather than royal service. However, he quickly learned to leverage his status as a court physician to pursue his alchemy.

Arthur Dee's Career as an English Royal Physician to the Tsar

In 1621, relatively late in his professional life at the age of 42, Arthur Dee's professional life was irrevocably changed when King James recommended him to Tsar Mikhail of the

[41] *Annals of the Royal College of Physicians*, III:67.
[42] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 3.
[43] *Annals of the Royal College of Physicians*, III:72.

Romanov empire to serve as his physician in ordinary.[44] The cross-cultural exchange was executed via two representatives to the Tsar, Yurij Rodionov and Andrey Kerkerlin, travelling to England and requesting an "experienced and excellent physician" from King James.[45] The Russian royal convoy travelled to Germany, France, Holland, and England in search of the perfect candidate on this secret mission. Dee's reputation preceded him, and King James wrote to the Tsar recommending him as a skilled physician in a letter dated 21 June, 1621.[46] Less than three months later, on September 8, 1621, Arthur was received by the Tsar in Moscow.[47]

Even before Arthur Dee was commissioned to serve as royal physician in the court of Tsar Mikhail I, influence from English medicine and alchemy had spread to Russia, making Dee an obvious contender for the position. There is evidence of western European medical philosophy in Moscow from the sixteenth-century, especially in relation to the military. Ivan the Terrible attempted to establish a Moscow medical school, but the western European instructors he tried to bring in were blocked by the Danes and Swedes. However this would change during the sixteenth century as the English were searching for new trade routes to the Middle East via Russia, inadvertently creating an English community of specialists in Russia, a large percentage of whom were doctors and apothecaries.[48] The port of Archangel was established in 1553 when an English trading vessel accidentally landed at nearby island. For almost 100 years (until the English civil war in 1649) the English traded with Moscow via this port.[49] John Dee, an expert

[44] Appleby, "Arthur Dee and Johannes Banfi Hunyades," 107.
[45] Schultheisz and Tardy, "The Contacts of the Two Dees," 102.
[46] Figurovski, "The Alchemist and Physician Arthur Dee," 43. Quoting Richter from an archive destroyed during the 1812 fire in Moscow.
[47] Schultheisz and Tardy "The Contacts of the Two Dees," 102.
[48] Figurovski, "The Alchemist and Physician Arthur Dee," 35-36.
[49] Figurovski, "The Alchemist and Physician Arthur Dee," 36.

maritime navigator, was preoccupied with a north-eastern route to China and Asia and drew up detailed instructions for routes through Russia in 1580.[50]

The insularity of Russian science before the establishment of the port of Archangel was forced by feuding neighboring lands and not at all royally mandated. In fact, quite the opposite. Elizabeth I and Ivan the Terrible began a lively scientific cross-cultural correspondence which continued to flourish under the subsequent reins of James I & VI and Charles I and Tsar Mikhail Romanov, resulting in a constant exchange of ambassadors.[51] Following an unstable period in Russian royal history, Tsar Mikhail continued the emphasis on western medicine in Russia initiated by Ivan the Terrible, establishing the "Order of Apothecaries" at his court. The order was in charge of medical service to the Tsar and royal family as well as provided laboratory space and instruments for producing and testing medicaments. The order was also responsible for the medical services of the army, practicing a mix of Paracelsian iatrochemistry and traditional Russian plant-based remedies.[52] There was clearly a history of Russo-English scientific exchange and Arthur was not the first Dee to be invited to serve the Russian court. Ivan the Terrible invited John Dee to his court in 1586, but John was working for Rudolf II in Bohemia at the time and declined.[53] There are earlier accounts of English apothecaries interacting with and travelling to Russia, such as that of James Frencham, who founded the first Court Pharmacy in Moscow in 1581 and travelled back and forth between England and Russia with over 167 medicines.[54]

What follows is the available information about Dee's professional life in Russia, which is limited. Arthur Dee, known in Russia as Artemii Ivanovich Dii, led a relatively comfortable

[50] Appleby, "Dr. Arthur Dee: Merchant and Litigant," 33.
[51] Figurovski, "The Alchemist and Physician Arthur Dee," 36.
[52] Figurovski, "The Alchemist and Physician Arthur Dee," 38.
[53] Figurovski, "The Alchemist and Physician Arthur Dee," 37.
[54] Appleby, "Dr. Arthur Dee: Merchant and Litigant," 47.

life working for Tsar Mikhail and was compensated in material goods as well as roubles, although he frequently pined for an intellectual community. The Tsar's initial gifts to Dee included many types of cloth such as smooth velvet, damask cloth, azure cloth, purple cloth, and London cloth, as well as forty sables worth 40 roubles and 70 roubles in cash. In addition, the Tsar presented Dee with a large stone house (420 x 224 feet) at Il'inskii gates near Kremlin, in close proximity to his primary patient, Mikhail himself. Dee's annual salary consisted of 250 roubles plus 72 roubles a month for daily provisions.[55] His daily provisions also included an exorbitant amount of alcoholic beverages, "…to drink daily from the court: 4 measures of Boyar wine, one quarter (of a gallon) of Romany (a wine), one quarter of cherry mead or crimson mead, a quarter of 'obarny' mead, a bucket of treacle mead, a half bucket of decanted mead, a half of princely mead, a half bucket of beer of highest quality and a bucket of plain beer."[56]

One of Dee's first assignments as Physician to the Tsar was in autumn of 1623, when he travelled to Gorky to treat Mar'ya Ivanova Khlopova, the Tsar's bride who had apparently been poisoned.[57] On June 30, 1625 Dee's alchemical colleague and friend, Thomas Rhodes of King's College in Cambridge, was issued a travel pass to Moscow for three years, so long as he did not visit Rome during his sojourn.[58] The Moscow route via Archangel was an important maneuver for the English to avoid the Catholic Mediterranean. This trip is pertinent to Arthur's story because Rhodes wrote a laudatory letter in support of Arthur Dee's publication, *Fasciculus Chemicus*, which is featured in the prefatory material of the text. This timeline indicates that Dee had been working on his manuscript of *Fasciculus Chemicus* for quite some time before it was published in 1631. This is further supported by Rhodes' request in his letter to Dee, transcribed

[55] Figurovski, "The Alchemist and Physician Arthur Dee," 43-44.
[56] Figurovski, "The Alchemist and Physician Arthur Dee," 44. Quoting the Russian Historical Library vol. 8 (1884).
[57] Figurovski, "The Alchemist and Physician Arthur Dee," 44.
[58] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 8.

by Elias Ashmole, that Dee give "speedy byrth to the aide of Hermes family" and become a "now environ'd Publisher".[59] Clearly Arthur Dee's book was highly anticipated.

At the end of 1626, Dee was granted his much desired leave to return to England for a limited period of time for work and personal reasons. In a letter from the Tsar to the new king of England, Charles I, Mikhail wrote, "by Our Royal command is sent from Us to the land of England Doctor Artemii Dii upon Our business and to visit relatives, and with him is sent upon Our business the interpreter Zakharii Mikolaev."[60] Arthur and his Russian interpreter returned to Russia in September of 1627 with two additional metallurgists: John Gilbert, chief engraver of the English royal mint and former warden of the Scottish royal mint, and John Martin, a jeweler.[61] Upon his return, Dee was received by the Tsar and presented him with a letter from Charles I dated 2 June, 1627.[62]

Arthur purchased a residence in Ilinskiye Vorota, Moscow that would turn out to cause him much strife and be the impetus for his desperate homesickness. At the start of 1628 Dee wrote to his friend, Sir John Coke, from Moscow pleading to return to England, saying that he would rather be paid 300 to be in England than the 500 that he receives in Moscow.[63] Around that time Dee bought the mansion that had previously belonged to the disgraced Prince Ivan Kurakin for 350 roubles. Dee sold the residence to his son-in-law, Reason Chapman, on January 23, 1628 for 1,600 roubles after he rebuilt most of it. However, Dee circumvented the Tsar's authority on the sale. As explanation for this blatant patronage error, Dee claimed that he sold the house in order to pay a debt he owed Chapmen for his children's English education. Later, the

[59] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 8. Quoting from MS. Ashmole 1790.
[60] Figurovski, "The Alchemist and Physician Arthur Dee," 45.
[61] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 10.
[62] Figurovski, "The Alchemist and Physician Arthur Dee," 45.
[63] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 8.

story changed to Dee freely giving Chapmen the deed in exchange for 1,600 roubles, which he needed for fire damage. The Tsar responded by putting an imperial ban on the property, to which Chapman argued he made the purchase to settle a debt and wanted to resell it as soon as possible. Imperial ban notwithstanding, Chapman was able to sell the property to Simon Digby acting as the Russia Company, and the house became its headquarters.[64]

This incident of Dee's disregard for royal authority towards a Tsar that appears to have been extremely generous to him is more intriguing considering the connection to the Russia Company (also known as the Muscovia Company). The Russia Company was formed in the sixteenth century and was a professional organizing for Englishmen trading with Russia. The group lost all of their early records in the 1666 Great Fire of London, so the earliest extant records date from March 1666, which is unhelpful in the context of Arthur Dee. However, a roll of freemen of the Mercers' Company, of which the Russia Company was incorporated, lists Arthur Dee as a member of the trade association by patrimony in 1605.[65] Additionally, two of Arthur's sons are listed as Merchants of Russia, John and William.[66] From this, it can be concluded that Arthur could not sell his property for personal gain, but his transgression could be excused under the guise of supporting Russo-English relations and commerce, which directly benefited the Tsar.

Dee's wife and children must have been in England during this period, because there is a promissory note from May 13, 1628 signed by Dee to pay Abraham Ashe, one of Dee's son-in-laws, 400 roubles annually to Dee's family in England.[67] Later that year, on August 20, Dee was allowed to return home to England on state business, taking the winter route "across Sweden to

[64] Appleby, "Arthur Dee: Merchant and Litigant," 46.
[65] Appleby, "Arthur Dee: Merchant and Litigant," 32.
[66] Appleby, "Arthur Dee: Merchant and Litigant," 37.
[67] Appleby, "Arthur Dee: Merchant and Litigant," 39. From the Ashe Papers.

English earth". He returned a few months later in January of 1627.[68] On June 10, 1629 Sir John Coke signed an English warrant authorizing "Doctor Dee to goe over into France".[69] This must have been when Dee met the Paris publisher of his book, Nicolas de la Vigne. The rest of the information from this year of Dee's life can be gleaned from his 'epistle to the candid reader' in the prefatory material of his book, signed from his study in Moscow on March 1629. He must have composed his alchemical opus, *Fasciculus Chemicus* (1631), while working for the Tsar in Russia. N. A. Figurovski posits that Dee had "no less than forty books on alchemy with him in Moscow", including Arthur's own transcriptions of his father's unpublished works.[70] Therefore, Dee wrote *Fasciculus Chemicus* based on a library that was heavily influenced by his father. This small book, which Dee refers to as a tiny bouquet (or *fasciculus*) of alchemical knowledge,[71] is his expertly curated alchemical excerpts based on the canonical sources that he had available to him in Moscow. All of the alchemical authors that Dee references are antique or medieval. He does not include any of his contemporaries his f*asciculus*.

Documentation of how little the Russian court physicians had to do on a daily basis accounts for "plentiful inactivity", spending most of their time in the "study of books".[72] Arthur corroborates this in a dedication to the Rosicrucian Brotherhood in a special issue of *Fasciculus Chemicus*, where he laments the fact that Moscow lacked an alchemical network and complains that he is unable to obtain the necessary instruments to practice alchemy in Moscow.[73] There is further documentation of Dee's displeasure being in Moscow. In June of 1630 Dee petitioned to receive medical supplies from an English apothecary called 'Abram Yurev' (possibly Abraham

[68] Figurovski, "The Alchemist and Physician Arthur Dee," 45.
[69] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 7-8.
[70] Figurovski, "The Alchemist and Physician Arthur Dee," 46, 50.
[71] Dee, *Fasciculus Chemicus*, Paris Issue, aiijv.
[72] Figurovski, "The Alchemist and Physician Arthur Dee," 44.
[73] Dee, *Fasciculus Chemicus*, Rosicrucian Issue, dedicatory epistle.

Ashe) from the port of Archangel to his practice in Moscow.[74] One year later, on June 6, 1631, Dee had to remind the Tsar to send for medical supplies from overseas. He also requested carts for the journey to Archangel and back. That same year, the Tsar gave Dee yet another estate previously belonging to a now exiled member of the court that would prove problematic. The estate had belonged to Prince Yu. Khvorostin before he fell into disgrace. While at this residence, Dee took up agriculture and sowed over four tons of rye that year. However, much to Dee's chagrin, Khvorostin returned from exile and the property was returned to him before Dee could reap what he had sown.[75]

In June of 1632 Dee was finally given royal approval from the Tsar for transportation of the medical supplies he desperately needed from England via a merchant, William Smith.[76] The next year, Charles I petitioned for Dee's return home. On December 20, 1633 Charles wrote to Tsar Mikhail, "[Dee] hath faithfully served your Ma^[tie] theise twelve years…and to take away suspicion, that a gentleman of Doctor Dee's merit, by his long absence from our presence, should be forgotten of us…to permit the said Doctor Arthur Dee with his family now to return unto us." This letter was sent to Dee and presented on his behalf to the Tsar by Deacon Ivan Gryazev almost a year later, May 7 1634.[77] Dee's friend and colleague Sir Theodore Turquet de Mayerne wrote to Dee twice that year about his desire to return home, warning him of the turbulent political climate and large number of royal physicians currently attending to Charles, all of whom were already splitting a salary.[78] Then, on July 24, 1634, Isabella Dee died in Moscow, never again to return to her homeland.[79]

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[74] Appleby, "Arthur Dee: Merchant and Litigant," 47
[75] Figurovski, "The Alchemist and Physician Arthur Dee," 45.
[76] Appleby, "Arthur Dee: Merchant and Litigant," 47-48.
[77] Figurovski, "The Alchemist and Physician Arthur Dee," 47.
[78] Add. MS 20921, fol. 42r.
[79] Appleby, "Arthur Dee and Johannes Banfi Hunyades," 100.

Before Dee made his final trip to England, now as a widower, he wrote a manuscript titled, *Arca Arcanorum,* to celebrate his achievement of the philosophers' stone. In the preface, dated August 10, 1634, he explains "[I] at last (by divine help) solved the riddles of knowledge." This can be contextualized with the special preface of the Rosicrucian issue of *Fasciculus Chemicus*, signed 1629, where Dee laments "I am unable to obtain the philosophical utensils—this is more painful to bear because I bear it unwillingly."[80] Thus, at some point between the years 1629 and 1634, Dee realized this ultimate alchemical achievement, made possible after obtaining the *prima materia* from Hungary.[81] In July of 1635 Tsar Mikhail replied to Charles, relieving Dee of his Russian royal duties after 14 years of service. The Tsar requested that Charles match the generous salary that he received in Russia. Tsar Mikhail gave Dee a parting gift of 300 roubles and permitted him to sell his house to Simon Digby.[82] But before Dee could finally return home, his servant, John Duncombe, accused him of intentionally poisoning Francis Glover during medical treatment, resulting in Glover's death and a ten-year legal battle.[83]

Dee was sworn in as Physician Extraordinary to Charles I on November 13, 1635, a post he held for five years which ended due to obvious political reasons.[84] Upon returning to London, Arthur Dee donated his manuscript, *Arca Arcanorum,* to the Bodleian Library. In the preface he dedicates his final life's work to "the most distinguished heads of Oxford and other men of letters in that famous academy".[85] There is not much evidence on Arthur Dee's actions upon his return to England beyond the following anecdotes. In 1640 Dee gave Nicholas Culpeper his father's scrying crystal ball as payment for curing his liver pain. Considering the amount of

[80] Dee, *Fasciculus Chemicus,* Rosicrucian Issue, preface.
[81] Dee, *Arca Arcanorum,* preface.
[82] Figurovski, "The Alchemist and Physician Arthur Dee," 47.
[83] Appleby, "Arthur Dee: Merchant and Litigant" 39, 54-55. From the Ashe Papers.
[84] Appleby, "Arthur Dee and Johannes Banfi Hunyades," 100.
[85] Dee, *Arca Arcanorum,* preface.

alcohol that Dee was gifted by the Tsar during his time in Russia it is not surprising that his liver was unhealthy. However, both Culpeper and the subsequent owner of the crystal, William Lilly, had the negative experience of a "lewd woman" apparition from scrying using this crystal.[86] This is not the first instance of a crystal conjuring a spirit with sexual requirements for scryers. In April 1587 the infamous wife-swapping episode between John Dee and his scrying partner Edward Kelly took place. According to John's diary the same crystal that had conjured lewd feminine spirits for both Lilly and Culpeper, required that Dee and Kelly share all things between them, including their wives.[87]

There is a second-hand account of Arthur's attempt to procure more of the essential matter for the philosophers' stone in a letter from Dee's friend Sir Thomas Browne to Elias Ashmole, signed 1674. In this letter Browne claims that Dee signed a contract with Johannes Bánfi Hunyades in London to return to Hungary for more *prima materia* two years before Hunyades' death, which was in 1646.[88] Hunyades' untimely death prevented the pair of colleagues from returning to Hungary and obtaining more antimony. Hunyades had likely been Dee's accomplice in procuring *prima materia* many years earlier. According to the 1634 preface of Dee's manuscript, *Arca Arcanorum*, it was 1619 when he first encountered the *prima materia*, or the essence of the Philosophers' Stone. Dee wrote that he was 42 years old when he obtained this material, likely antimony, from Hungary through an acquaintance who must be Johannes Bánfi Hunyades.[89]

[86] Appleby, "Arthur Dee and Johannes Banfi Hunyades" 96.
[87] Harkness, "Managing an Experimental Household," 257.
[88] Josten, *Elias Ashmole*, 4:1373.
[89] Appleby, "Arthur Dee and Johannes Banfi Hunyades," 107.

After the regicide of Charles I in 1649, Dee moved to Norwich.[90] It was there where he befriended Sir Thomas Browne, who put Elias Ashmole in contact with Arthur about the publication of an English edition of *Fasciculus Chemicus*. On January 23, 1650 Elias Ashmole initiated a correspondence with Arthur Dee concerning the publication of *Fasciculus Chemicus* in English, to which Dee replied almost immediately with his intense disapproval of the text appearing in the vernacular.[91] Ashmole dismissed Dee's trepidation, and persisted with the publication of the second edition of *Fasciculus Chemicus* that same year.

Arthur Dee died in September of 1651, and was buried in St. George's Church, Tombland, near Norwich. After Dee's death, Sir Thomas Browne wrote a letter to Ashmole containing a list of works left to him by his good friend Arthur Dee. He offered to send Ashmole any of these books to "peruse or transcribe" so long as he returned them.[92] Clearly the medieval alchemist George Ripley loomed large in Dee's alchemical cannon, and his "scrowle" (albeit a pseudo-Ripley text) referenced in the list is none other than one of the fifteen extant early modern Ripley scrolls. The list of the nine texts Arthur bequeathed to Browne are as follows:

"A manuscript containing these tracts:

> -Take earth of earth earths mother with some explication.
>
> -A short worke and true, of half a sheet.
>
> -Cantilena Ripley, de L. phil. seu de phœnice.
>
> -Verbum abbreviatum Rogeri Bacon a Raimundo Galfrido explicatum, above a sheet.
>
> -The great worke or great Elixir of Ripley ad Solem et Lunam with an accurtation for shortning of the great work, containing 2 sheets.

[90] Schultheisz and Tardy, "The Contacts of the Two Dees," 104.
[91] Josten, *Elias Ashmole*, 2:503-505.
[92] Keynes, *The Works of Sir Thomas Browne*, 6:322. Letter to Ashmole, Jan 25, 1658.

> -A Letter of Ripley sent to a friend subscribed by George Ripley ch. of Bridlington, farmer and curate of Fax Bulburgh.
>
> -The easiest way in practicing the philosophers stone, a sheet & half.
>
> -Philossium & medulla translated out of Latin by George Higins.
>
> -A concordance of the Sayings of Guido and Raymund.
>
> -The worke of Dickinson, about an hundred verses.
>
> An ancient manuscript of Nortons Ordinall.
>
> Dunstanus Episcopus Cantuariensis de lapide philos., a small manuscript.[93]
>
> Theriaca divina Benedicti MS. Lat. Anonym.
>
> A manuscript entitled Investigation of causes writ by a person of these parts about 50 yeares agoe. A Theoricall peece, butt relating to the Herm. Philosophie and worke. An Originall and I thinck there is noe coppy of it, about 4 sheets.
>
> Ripleys Emblematicall or Hieroglyphicall Scrowle in parchment, about 7 yards long with many verses somewhat differing from those in your first part next Ripleys vision.
>
> Two small peeces of Garlandus Anglus, Latin and printed.
>
> Dastini Speculum philosoph., MS. Lat.
>
> Benjamin Locks picklock unto Ripleys Castle, prose and verse, about 4 or 5 sheets, MS."[94]

Paracelsian Iatrochemistry & Astrological Medicine

Arthur Dee inherited an original manuscript from his father, in addition to the numerous copies of canonical alchemical texts. This personal medical notebook, held by the British Library (Sloane 1902), provides insight into the type of alchemical and astrological medicine that Arthur Dee practiced while in service to various courts. Surprisingly, this small notebook has not been examined or published on in detail, as it is in both Arthur Dee and John Dee's hands. These types of medical miscellanies, recipe books, notebooks, and commonplace books were prevalent

[93] Josten attributes this to MS Sloane 1255. However, this could not have been the case if it is a "small manuscript" as Sloane 1255 is a very large tome.
[94] Keynes, *The Works of Sir Thomas Browne*, 4:294.

during the early modern period. They satisfied a particular problem created by the print revolution—the need to organize an overwhelming influx of new knowledge.[95] It was not until recently that scholarship devoted much attention to physician's notebooks, which prove to be an invaluable resource as to how early modern medical practitioners understood, analyzed, and synthesized the array of information they received from print and manuscript sources, as well as their own experience.

John Dee gave his son a collection of horoscopes, anatomical diagrams, and Paracelsian medical diagnoses, to which Arthur subsequently added his own medical-astrological musings. John pioneered a reformed astrology utilizing new information from his study of optics and Paracelsian alchemy. Early modern natural philosophers such as Dee married alchemy and astrology to create a celestial alchemy, as both disciplines shared a concern for heavenly projections.[96] The study of astrology in conjunction with the human body, or 'iatromathematics', is an ancient concept and was used by Galen and was promoted within Galenic medicine.[97] By merging the old tradition of iatromathematics with the new science of iatrochemistry, as is presented here in Sloane MS 1902, new medical knowledge was produced during the early modern period.

The growth in popularity of iatrochemistry was integral to paradigm shifts in seventeenth-century medical philosophy. Iatrochemistry is the application of alchemical principals to anatomy and the treatment of disease in the human body. In fact, early modern physicians would have found little distinction between alchemy and medicine.[98] The type of iatrochemistry practiced by alchemists, such as Arthur Dee, was pioneered by a physician who

[95] Harkness, *The Jewel House*, 196-197.
[96] Newman and Grafton, *Secrets of Nature*, 14-15.
[97] Forshaw, "Chemistry, that Starry Science," 145.
[98] Timmerman, "Doctor's Order," 36.

called himself Paracelsus. His teachings were integral to both Arthur and John Dee's medical philosophy, as is evident by the introductory message in their father/son medical notebook (Sloane MS 1902), "Fasciculus remediey paracelsi/Petrus Bayrus".[99] This note indicates that the content of the small manuscript includes a collection of Paracelsian remedies.

The Swiss-German doctor-surgeon known as Paracelsus was born Philippus Aureolus Theophrastus Bombastus von Hohenheim in 1493 and died in 1541.[100] Paracelsus held the dual roles of city physician and professor of medicine at University of Basel, where he revolutionized early modern medicine by teaching based on his experience instead of the ancient and medieval philosophical cannons of Galen, Hippocrates, and Avicenna. To further distance himself from his academic contemporaries, Paracelsus taught in his native spoken tongue of Swiss-German, instead of the typical university language of Latin.[101] The opportunity to earn his degree at the same university at which Paracelsus once taught must have been exciting to the young medical student Arthur Dee.

Paracelsus' blatant disregard for the academic norm did not grant him a laudatory reputation among his contemporaries. He was happy to engage in combatant discourse with colleagues, as is demonstrated by this excerpt from a selection of his writings, "Let me tell you this: every little hair on my neck knows more than you and all your scribes, and my shoebuckles are more learned than your Galen and Avicenna, and my beard has more experience than all your high colleges."[102] However, if his shining personality was not remembered by his followers, his impact on early modern iatrochemistry was. This is exemplified by marginalia on the front flyleaf of the Lilly Library's copy of Paracelsus' *Der Grossen Wundartzney* (RD93.P22 W96

[99] MS Sloane 1902, front flyleaf.
[100] Debus, *The English Paracelsians*, 14.
[101] Debus, *The English Paracelsians*, 16-17.
[102] Jacobi, *Paracelsus Selected Writings*, 79.

1536), which elucidates "Paracelsus…a famous Physicean/Swiss/Medical & philosophical writer, born in 1493. He studied Alchymy & pretended he was let into the Secret of the Philosophers stone. He wrought many extraordin-ary cures, was ^[almost] always intoxicated. He died in 1541."[103]

Paracelsian philosophy is based on mystical, neo-Platonic and Pythagorean writings which were enjoying a renaissance in their own right during the early modern period as a reaction against Aristotelian, logic-based scholasticism. Paracelsus rejected the contemporary practice of Galenic, humoral medicine because of its exclusion of religion from medical contexts and lack of a chemical understanding of the human body.[104] The Galenic theory of medicine subscribed to the belief that the body was composed of four humors: blood, phlegm, yellow bile, and black bile. Within Galenism, a sickness in the body is caused by an imbalance of any of these humors.

Conversely, Paracelsus believed that alchemical medicine was organized into four categories: philosophy, astronomy, alchemy, and ethics and that these categories are reflective of the four alchemical elements: earth, air, fire, and water. This hermetic style of medicine is possible within a micro-macrocosmic universe, a worldview where plant and mineral materials directly correspond to respective celestial bodies, and thus can affect the human body.[105] Paracelsus imbued his medicine with religion by extending his elemental philosophy to the concept of Christian creationism, believing that God created the world, and consequently man, from the four alchemical elements.[106] The new alliance between religion and medicine present in

[103] Paracelsus, *Der Grossen Wundartzney* (RD93.P22 W96 1536)
[104] Elmer, "Medicine, religion and the puritan revolution," 13.
[105] Debus, *The English Paracelsians*, 19.
[106] Debus, *The English Paracelsians*, 24.

Paracelsian iatrochemistry encouraged discovery of religion and magic within nature and found compromise between confessional divergences in the search for a true, universal religion.

Paracelsian medicine relied on a chemical explanation for imbalances in the human body, purporting that chemical reactions should be treated with chemically prepared medicines and that poison was the most effective form of treatment, meaning that dosage was crucial.[107] This last aspect of Paracelsian medicine sheds new light on the accusations by Dee's butler that he intentionally poisoned his patient, Francis Glover. It is viable to suggest that since Dee followed Paracelsian medical philosophy that he also practiced treating patients with poison, and that this is not a concept completely alien to modern medicine (chemotherapy, vaccines, treating a hangover with more alcohol, etc.). It is also worth considering the authors that Dee includes in *Fasciculus Chemicus* in the context of Paracelsian iatrochemistry. Dee does not discriminate against the ancient and medieval authors that are diametrically opposed to the Paracelsian medicine he practices. By including Aristotle alongside Plato, Dee is participating in a longstanding alchemical tradition of picking and choosing passages that serve the complier and reconciling them with one another. Further, Dee's medical notebook and practice do not directly influence his alchemical writing. For Dee, the alchemical world reflects a universe that encompasses all religions and philosophers.

Sloane MS 1902[108]

Arthur's handwriting is similar to his father's but can be differentiated with a careful eye. The pages that contain John's notes are exclusively parchment while Arthur wrote either on the verso of John's notes or on a separate sheet of paper, subsequently combined to create this

[107] Debus, *The English Paracelsians*, 32, 34.
[108] What I provide here is a brief introductory description and analysis due to the broad scope of my dissertation. It is not at all comprehensive.

notebook.[109] This section contains an original bibliographical description of the notebook, followed by an analysis.

British Library, Sloane MS 1902

Description:

Paper and parchment, small manuscript bound in leather, 10cm x 12

Composition and Numbering:

31 folios numbered with Arabic numerals throughout.

Folios 11v-14r, part of 27v, 28r, 29v are oriented upside-down from the rest of the codex.

Fols. 5r, 9v, 10r, 11r, 27v, 28r: Natal horoscopes and lifetime predictions

Fols. 1v, 4r/v, 6r-8r, 14v, 15r-22v, 23r-27r, 29r/v: Astrological medical projection

Fols. 2r, 3r/3v, 9r, 10v: Astrological symbols and corresponding body parts

Fols. 13r/13v-14r: Language codes and ciphers

Fols. 11v-12v, 28v, 30r/v, 31r/v: References to alchemical authors and processes

The leaves of this tiny square commonplace book are taped together, rather than sewn, to create a codex. After the loose leaves were assembled into codex form, an owner wrote page numbers on the top right on the recto of each leaf. It is bound in a Sloane collection binding with a gold gilt Sloane library stamp on the front and "BRIT. MUS.—S.L. 1902/ASTROLOGICAL NOTES" on the spine.

Five types of alchemical-medical knowledge making categories can be gleaned from this manuscript. Sometimes the leaves of this notebook are written on both recto and verso sides on related topics, when that is the case they will be referred to as unit (example: 4r/v). As this manuscript is a collection of John's loose notes filled in later by Arthur, it is more fruitful to

[109] The following leaves are paper: 1-2, 5-8, 31.

examine its pages as two sides of a single leaf which may have corresponding information on the recto and verso rather than as a codex with continuous information from left to right, as modern readers are inclined to do. Evidence such as the later additions to John's notes on parchment, the matching size of the paper that Arthur used, and the corresponding relationship between the folios indicate that Arthur created the codex and added to it in response to his father's notes. The five types of alchemical-medical knowledge in this manuscript:

1) Natal horoscopes and lifetime predictions (folios 5r, 9v, 10r, 11r, 27v, 28r,)

Eight of Arthur's children's names and dates of birth were added to folio 5 with the verso of this folio left blank, perhaps for future horoscopes. John Dee drew horoscopes for Arthur on the recto of folio 28 (which has been bound upside down) as well as three of Author's children, Margarita (1603), Jane (1605), and Johannes (1606) on folio 9 verso, 10 recto, and 11 recto respectively. Below the nativity for Johannes, Arthur Dee wrote the date and a short note that his wife, Isabella, died. Underneath his Arthur's horoscope is the foreboding prediction made by his father that he would die violently aboard, perhaps contributing to Arthur's desperate desire to return home while working for the Tsar in Russia. In the center of his birth chart Arthur astutely added that this nativity was made by his intelligent father and that with great good comes much bad. Only one of the horoscopes in this notebook was added by Arthur, that of his seventh child, Isabel (1614) on folio 27 verso (also upside down).

2) Astrological medical projection (folios 1v, 4r/v, 6r-8r, 14v, 15r-22v, 23r-27r, 29r/v)

The verso of folio 1 (recto is pasted down to a new piece of paper, and thus unreadable) contains the previously mentioned note, "Fasciculus remediey paracelsi/Petrus Bayrus." Paracelsian medicine hinged on the belief that disease is a chemical reaction brought on by external causes

and localized in particular organs. This concept is pervasive within Arthur's astrological-based medical diagnoses in this notebook.

Folio 4 recto categorizes the twelve astrological signs into their elemental properties of fire, earth, air, and water. The groups of three signs and their respective element are linearly designated a physical manifestation, such as "Hot and dry cholerick bitter", followed by an astrological placement and description, "femme meridignall [of the] night". Below the elemental categories, the twelve zodiacs are organized into their seasonal placements of mutable (or moveable), fixed, and cardinal, or what Arthur Dee refers to as "Comon". Dee employs the medieval technology of horizontal tree diagrams on this page, which is part of a longstanding scribal tradition for organizing knowledge. The verso of folio 4 appears to be a continuation of the recto, and ascribes alchemical symbols to the astrological signs. The top of the page denotes seven alchemical symbols with corresponding numbers. Below this, Dee draws a rectangular chart which lists the twelve symbols of the zodiac and alternately assigns 'night' and 'day' to each using Latin and the alchemical symbols for Luna and Sol interchangeably. The remaining five alchemical symbols listed above the chart and placed in the diagram between 'night' and 'day' are Mercury, Venus, Mars, Jupiter, Saturn. Copies notes surround the chart predicting illness, conception, and fortune. The chart is meant to illustrate the best times of day and in which planetary houses each zodiac will be most susceptible to those three forces.

Folio 6 recto through 8 recto are written continuously on both sides under the heading "*Signa Mortis*" or Signs of Death. The first folio in this section lists nine ascending signs of death and the verso of folio 6 explicates further on planetary ascension correlating with death. Folio 7 recto describes signs of death relating to the moon, folio 7 verso signs of death in the eighth house, and folio 8 recto describes signs of death in the sixth house. The verso of folio 8 was left blank.

Folio 14 verso recommends, “For A Burning or Scalding dyp a cloth in good Inke and bathe yt therewith” above a chart filled with Latin terms for body parts.

Folio 15 recto through 22 verso contain Latin numerated aphorisms on astrological medical projections, mostly dealing with death, with the following headings: “Ex figura ac statu Planetar. ad morbi initium traduntur sui Aphorismi de Longitudine vel breuitate morbi jui de-sumutur. A Luminaribus a D. Asc: et a sexta, ac a Deuis”, on the relationship between diseases and the planetary placements; “An sit ad Salutem vel Mortem terminaturus Morbus”, on health and sickness/death; “Aphorismi particulares seu Indicationes astrologicæ de decubitu Letbali.”, on dying in a reclining position; “Aphorismi particulares seu Indicationes salutis”, on healing or salvation.

Folio 23 recto through 27 recto describe astrological medical projections in English using astrological symbols within the text. This was clearly written by Arthur Dee, and the Latin on the previous pages was likely written by John. The majority of Arthur’s writing is on the topic of “To know in what parte of the body [the] disease or most payne lyeth”, followed by a shorter section on “To know whether the woman be quick with chylde or not”.

Folio 29 is a scrap of paper pasted onto a larger paper so that it fits into the codex. John Dee has written astrological projections about fortune on both sides of this narrow sheet.

3) Astrological symbols and corresponding body parts (folios 2r, 3r/3v, 9r, 10v)

Folio 2 recto has six symbols of the zodiac drawn vertically next to a note in John Dee’s hand about an equinoctial phenomena. This is followed by a chart (page 3r/3v) of seven astrological symbols that are each designated a body part onto which they have influence. This is repeated four times on recto and verso with new body parts being influenced in each quadrant related to zodiac signs. The symbols represent Saturn, Jupiter, Mars, the sun, Venus, Mercury, and the

moon. Folio 9 recto has the same chart from pages 3r/3v with new body parts to assign influence from the same seven astrological symbols under different zodiac signs. The anatomical drawing on Folio 10 verso falls into this category because it depicts the celestial influence on various body parts illustrated in the charts. This drawing harkens back to the medieval tradition of *Melothesia*, or Zodiac Man (Figure 4). Within this concept, body parts are assigned to specific planets or astrological signs.[110] Thus, this drawing of the human body is a visual depiction of the charts on folios 2r, 3, and 9.

4) Language codes and ciphers (folios 13r/13v-14r)[111]

Folio 13 is bound upside-down in the notebook and both the recto and verso are filled with prose written in a coded phonetic alphabetic language, with the Latin title *Hermeticæ Philosophiæ medulla*. Folio 14 recto is also upside-down in the context of the majority of the codex and contains a grid cipher for the coded language on folio 13 (Figure 5). The pages that are written upside down correspond to Arthur Dee's handwriting, and are written on the reverse side of a correctly oriented leaf written by his father. The code is related to the position of the letters of the alphabet as they correspond to one another in a pattern on the grid. This is not a simple substitution cipher (for example, 'n' represents 'a'), as implementation into a digital substitution software yielded no meaningful results.

5) References to alchemical authors and processes (folio 11v-12v, 28v, 30r/v, 31r/v)

Folio 11 verso through 12 verso are a continuous commentary on canonical medieval alchemical authors Arnold of Villanova and Dionysius Zacharius. They should be treated as a continuous narrative, as the entire treatise is oriented upside-down and begins with the descriptive heading

[110] Forshaw, "Chemistry That Starry Science," 145.
[111] I am currently working with a colleague who works in cryptography, Sarah Lang at the University of Graz, to decode the cipher.

on folio 12 verso referencing the Greek myth Jason and the Argonauts and ends on the verso of folio 11. The story of Jason's search for golden fleece in Colchis is frequently used as a metaphor in seventeenth-century alchemy for the successful transmutation of base metals into gold. Clearly Arthur thought that the answer to successful alchemical transmutation could be found in the musings of these two authors. The recto of folio 11 is John Dee's horoscope projection for Arthur's son Johannes in the correct page orientation for the codex, meaning that Arthur wrote the alchemical treatise 'upside-down' after the notebook had been bound. Thus, Arthur, or someone contemporaneous to him, must have bound John Dee's medical and astrological notes and Arthur subsequently filled in gaps.

Folio 28 verso contains short notes in Latin on alchemical processes, scribed by John Dee. The variation in ink indicates that these musings were jotted down at various moments and should not be considered cohesive narrative. Topics range from antimony to vitriolized tartar.

Folio 30 recto has a few short notes in Latin on more esoteric aspects of alchemy as well as a small doodle possibly representing the metaphorical alchemical process being described. On the verso is a continuation of the Latin alchemical notes.

Folio 31 recto references an alchemical text in Latin "vide Libau: de Extract, fol. 244." and the verso is written in English describing an alchemical process. Both appear to be written by John, and there is a note on the following page, "31 John's" confirming this.

To the modern reader, the organization of this commonplace medical text appears random and contradictory. However, these alchemical and astrological ideas about the human body overlapped in both father and son's medical practice. None of the themes found in this manuscript of astrology, alchemy, coded language, and Paracelsian iatrochemical treatment were mutually exclusive to an early modern alchemical physician. This commonplace medical

notebook provides historians with a primary source account of early modern knowledge creation through scribal speculation. In this notebook, John Dee worked through the relationship between medicine and astrology in a micro-macrocosmic universe as is evident by the drawing the human form and corresponding alchemical and astrological symbols. Arthur subsequently speculated on his father's textual and visual conclusions and added his own medical musings for his family and generally to the pages, sometimes in the margins or even in a small blank space left by his father, as is the case with his own horoscope. In this way, Arthur is taking his father's medical philosophy and using it as the basis from which to build his own knowledge through the scribal medium. This type of material evidence of early modern speculation is invaluable as it allows the historian to be privy to a seventeenth-century physicians' knowledge-making process on paper.

In the 2008 article, "Doctor's Order: An Early Modern Doctor's Alchemical Notebooks", Anke Timmermann argues that alchemical medical notebooks should be understood as a technology, not a text. She elucidates that note-taking was personalized (much like today) and included technologies such as collecting, tracking, and sorting. The goal was not to produce a curated text for an imagined audience, but to create something open-ended and ongoing.[112] This can be applied to Dee's medical notebook to understand it as a technology that performs a function for the creator; a knowledge-making tool, rather than a text organized for an alchemical readership. His notebook is inherently difficult for anyone besides the author to read, further showing that communicating ideas to an outside audience was not the purpose of this object.

Conclusion

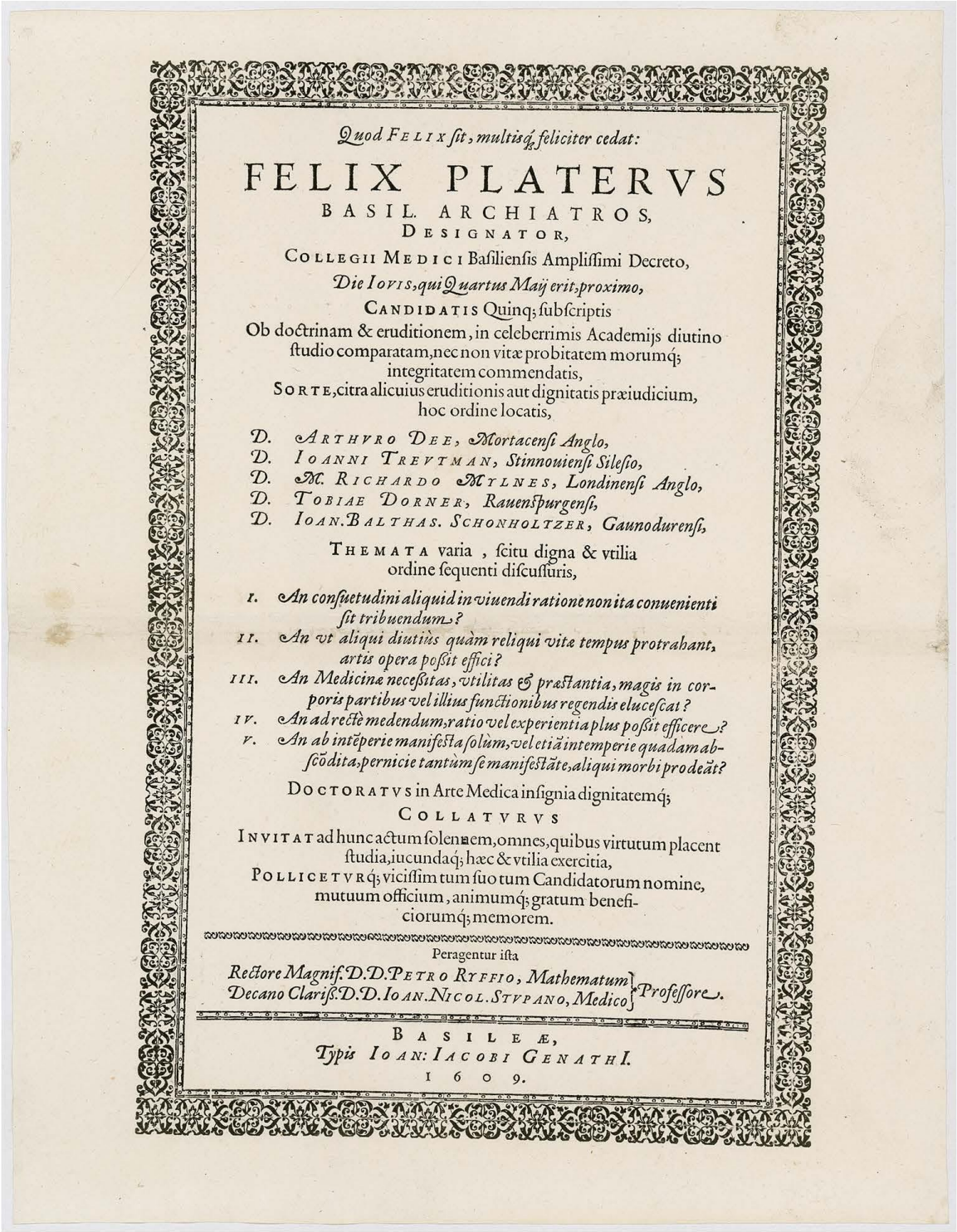
This chapter concentrates on the life and medical career of Arthur Dee. It is necessary to have a broad understanding of both the unique aspects of his life as the firstborn son of renowned

[112] Harkness, *The Jewel House*, 197.

alchemist John Dee as well as the moments in his life that make him a typical example of a seventeenth-century medical practitioner. Additionally, new documentary sources on his life such as his medical degree from University of Basel and his medical notebook illuminate the mundane and special aspects of Arthur Dee as well as provide broader implications for seventeenth-century medicine. Arthur Dee's trajectory as a royal physician shows that even the educated son of a polymath such as John Dee could be repeatedly questioned and harassed by the Royal College of Physicians. His work for the Tsar and desire to return to his homeland exemplify Russo-English relations during the period preceding the English Civil War. Arthur's treatment and interaction with patients as well as his medical notebook provide a direct link between Paracelsian iatrochemistry and seventeenth-century medicine. He is very much an understudied character compared to his importance to the narrative of early seventeenth-century European cosmopolitan intellectual networks, as is indicated by his interactions with the likes of Sir Thomas Browne, Elias Ashmole, Sir Theodore Turquet de Mayerne, and Johannes Banfi Hunyades.

However, the rest of this project will not concern the biographical aspects of Arthur Dee. The information gleaned from this chapter will be used as context for a narrative based on the history of the book, organized around one text in particular. Arthur Dee's printed and scribal works were major events in his life and had lasting impacts on seventeenth-century alchemy. As these texts shift from hand-press issues to manuscript copies to an English edition, their use and reuse provide a case-study from which to examine seventeenth-century alchemy in the broader context of early modern modes of creating and sharing knowledge. Owners, readers, and collectors of alchemical texts organized and speculated on alchemical information, utilizing canonical tracts to create new knowledge and aimed to reach the ultimate alchemical goal of the

philosophers' stone. Arthur Dee's text shows the ways in which he is performing alchemical knowledge-making, as well as how others are using and transforming his texts to achieve their own goals. What follows is the biography of a text, *Fasciculus Chemicus*.



Quod FELIX *sit, multisq; feliciter cedat:*

FELIX PLATERVS

BASIL. ARCHIATROS,
DESIGNATOR,

COLLEGII MEDICI Basilienſis Ampliſſimi Decreto,
Die Iovis, qui Quartus Maij erit, proximo,
CANDIDATIS Quinq; ſubſcriptis
Ob doctrinam & eruditionem, in celeberrimis Academijs diutino ſtudio comparatam, nec non vitæ probitatem morumq; integritatem commendatis,
SORTE, citra alicuius eruditionis aut dignitatis præiudicium, hoc ordine locatis,

D. *ARTHVRO DEE, Mortacenſi Anglo,*
D. *IOANNI TREVTMAN, Stinnouienſi Sileſio,*
D. *M. RICHARDO MYLNES, Londinenſi Anglo,*
D. *TOBIAE DORNER, Rauenſpurgenſi,*
D. *IOAN. BALTHAS. SCHONHOLTZER, Gaunodurenſi,*

THEMATA varia, ſcitu digna & vtilia ordine ſequenti diſcuſſuris,

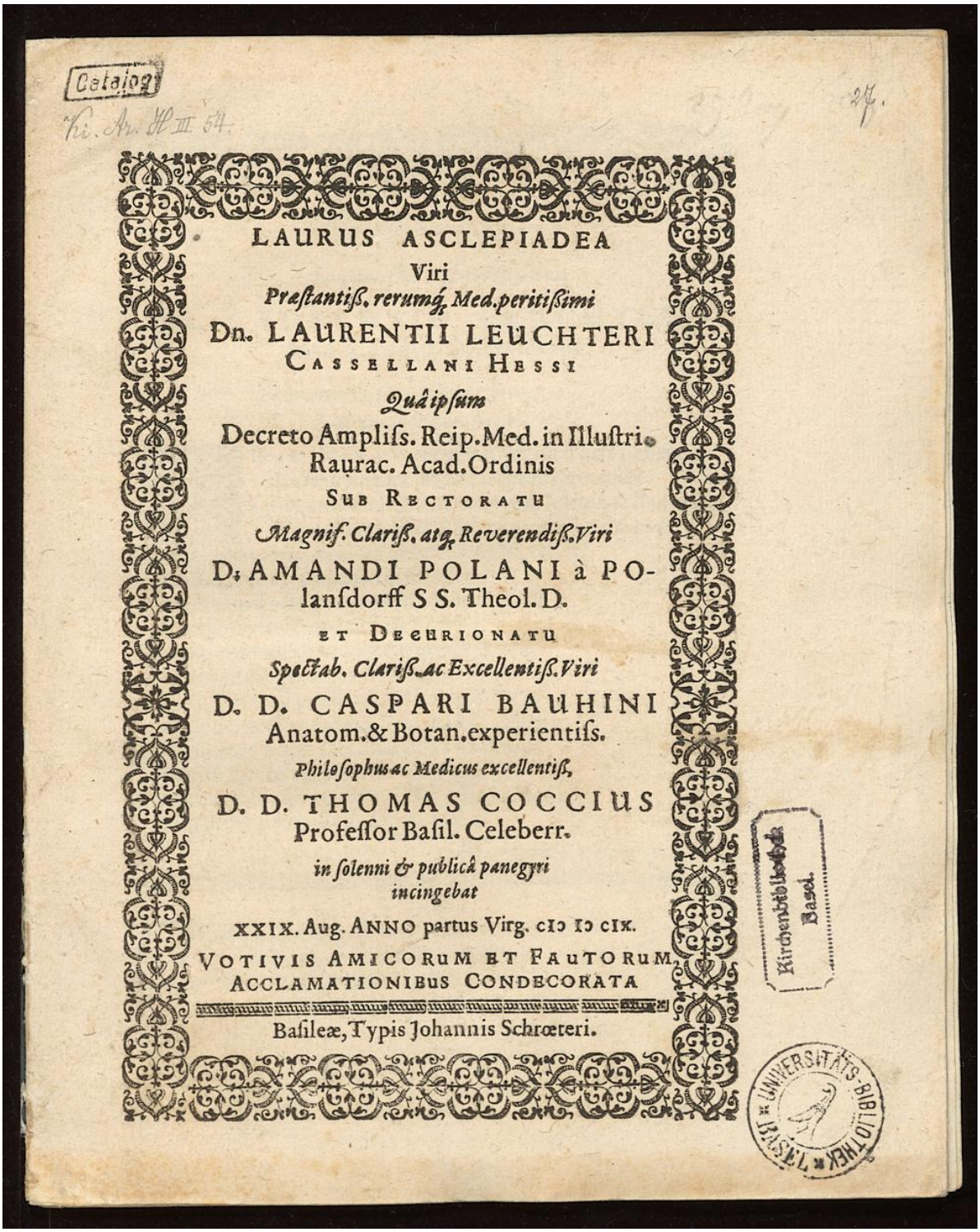
I. *An conſuetudini aliquid in viuendi ratione non ita conuenienti ſit tribuendum?*
II. *An vt aliqui diutiùs quàm reliqui vitæ tempus protrahant, artis opera poſsit effici?*
III. *An Medicinæ neceſsitas, vtilitas & præſtantia, magis in corporis partibus vel illius functionibus regendis eluceſcat?*
IV. *An ad rectè medendum, ratio vel experientia plus poſsit efficere?*
V. *An ab intẽperie manifeſta ſolùm, vel etiã intemperie quadam abſcõdita, pernicie tantùm ſe manifeſtãte, aliqui morbi prodeãt?*

DOCTORATVS in Arte Medica inſignia dignitatemq;
COLLATVRVS
INVITAT ad hunc actum ſolennem, omnes, quibus virtutum placent ſtudia, iucundaq; hæc & vtilia exercitia,
POLLICETVRq; viciſſim tum ſuo tum Candidatorum nomine, mutuum officium, animumq; gratum beneficiorumq; memorem.

Peragentur iſta
Rectore Magnif. D. D. PETRO RYFFIO, Mathematum
Decano Clariſs. D. D. IOAN. NICOL. STVPANO, Medico } *Profeſſore.*

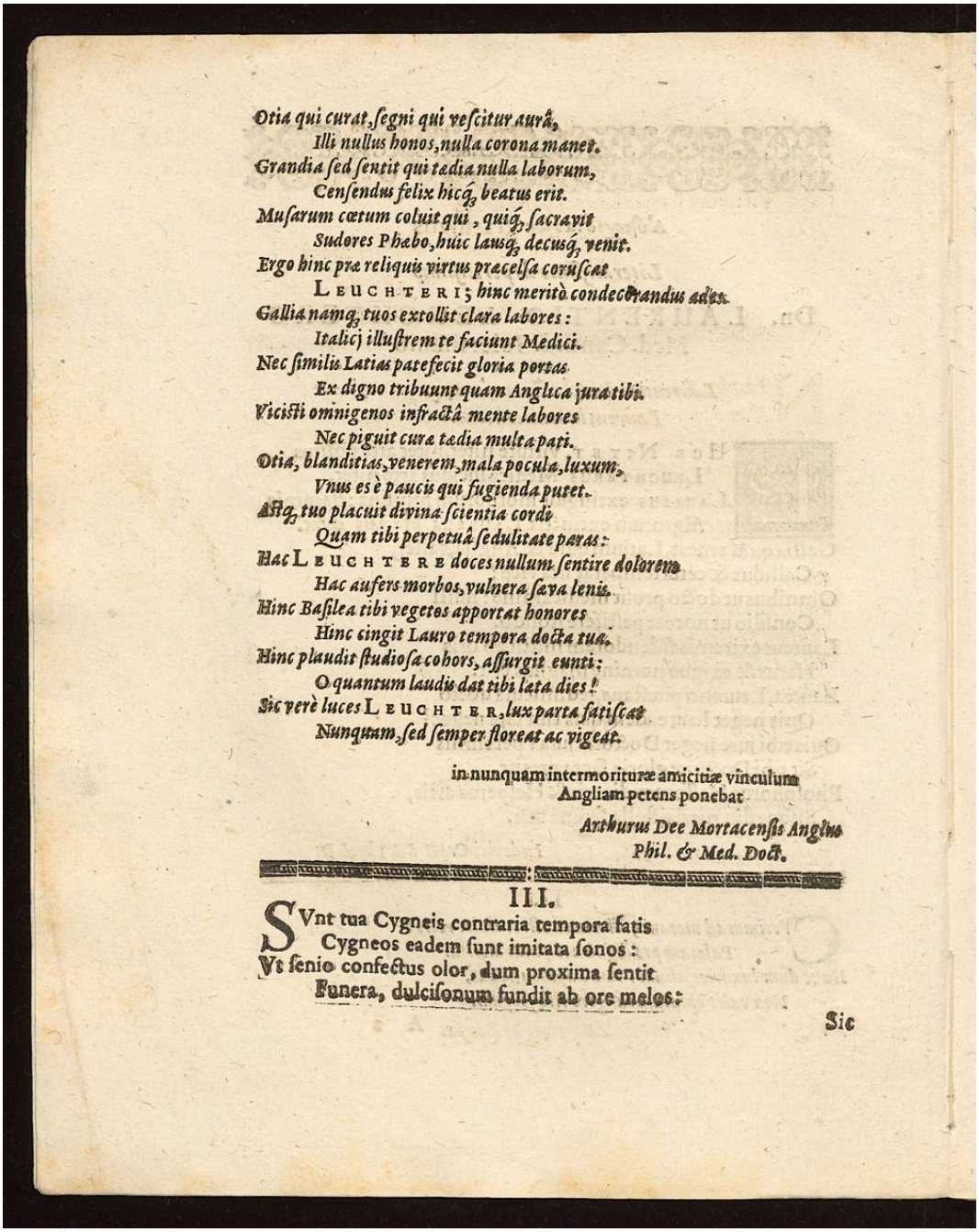
BASILEÆ,
Typis IOAN: IACOBI GENATHI.
1609.

Figure 1, Arthur Dee's Medical Degree, SLUB Dresden



LAURUS ASCLEPIADEA
Viri
Præstantiſs. rerumq; Med. peritiſsimi
Dn. LAURENTII LEUCHTERI
CASSELLANI HESSI
Quâ ipſum
Decreto Ampliſs. Reip. Med. in Illuſtri Raurac. Acad. Ordinis
SUB RECTORATU
Magnif. Clariſs. atq; Reverendiſs. Viri
D. AMANDI POLANI à POlanſdorff S S. Theol. D.
ET DECURIONATU
Spectab. Clariſs. ac Excellentiſs. Viri
D. D. CASPARI BAUHINI
Anatom. & Botan. experientiſs.
Philoſophus ac Medicus excellentiſs,
D. D. THOMAS COCCIUS
Profeſſor Baſil. Celeberr.
in ſolenni & publicâ panegyri incingebat
XXIX. Aug. ANNO partus Virg. CIↃ IↃ CIX.
VOTIVIS AMICORUM ET FAUTORUM ACCLAMATIONIBUS CONDECORATA
Baſileæ, Typis Johannis Schrœteri.

Figure 2 Laurus Asclepiadea, University of Basel



Otia qui curat, ſegni qui veſcitur aurâ,
Illi nullus honos, nulla corona manet.
Grandia ſed ſentit qui tædia nulla laborum,
Cenſendus felix hicq; beatus erit.
Muſarum cœtum coluit qui, quiq; ſacravit
Sudores Phœbo, huic lausq; decusq; venit.
Ergo hinc præ reliquis virtus præcelſa coruſcat
LEUCHTERI; hinc meritò condecorandus ades.
Gallia namq; tuos extollit clara labores:
Italicj illuſtrem te faciunt Medici.
Nec ſimilis Latias patefecit gloria portas
Ex digno tribuunt quam Anglica jura tibi.
Viciſti omnigenos infractâ mente labores
Nec piguit curæ tædia multa pati.
Otia, blanditias, venerem, mala pocula, luxum,
Vnus es è paucis qui fugienda puret.
Aſtq; tuo placuit divina ſcientia cordi
Quam tibi perpetuâ ſedulitate paras:
Hac LEUCHTERE doces nullum ſentire dolorem
Hac aufers morbos, vulnera ſæva lenis.
Hinc Baſilea tibi vegetos apportat honores
Hinc cingit Lauro tempora docta tua.
Hinc plaudit ſtudioſa cohors, aſſurgit eunti:
O quantum laudis dat tibi læta dies!
Sic verè luces LEUCHTER, lux parta ſatiſcat
Nunquam, ſed ſemper floreat ac vigeat.

in nunquam intermorituræ amicitiæ vinculum
Angliam petens ponebat
Arthurus Dee Mortacenſis Anglus
Phil. & Med. Doct.

III.

SVnt tua Cygneis contraria tempora fatis
Cygneos eadem ſunt imitata ſonos:
Vt ſenio confectus olor, dum proxima ſentit
Funera, dulciſonum fundit ab ore melos:

Sic

Figure 3 Laurus Asclepiadea, University of Basel

Figure 4 Zodiac Man, Sloane MS 1902, British Library

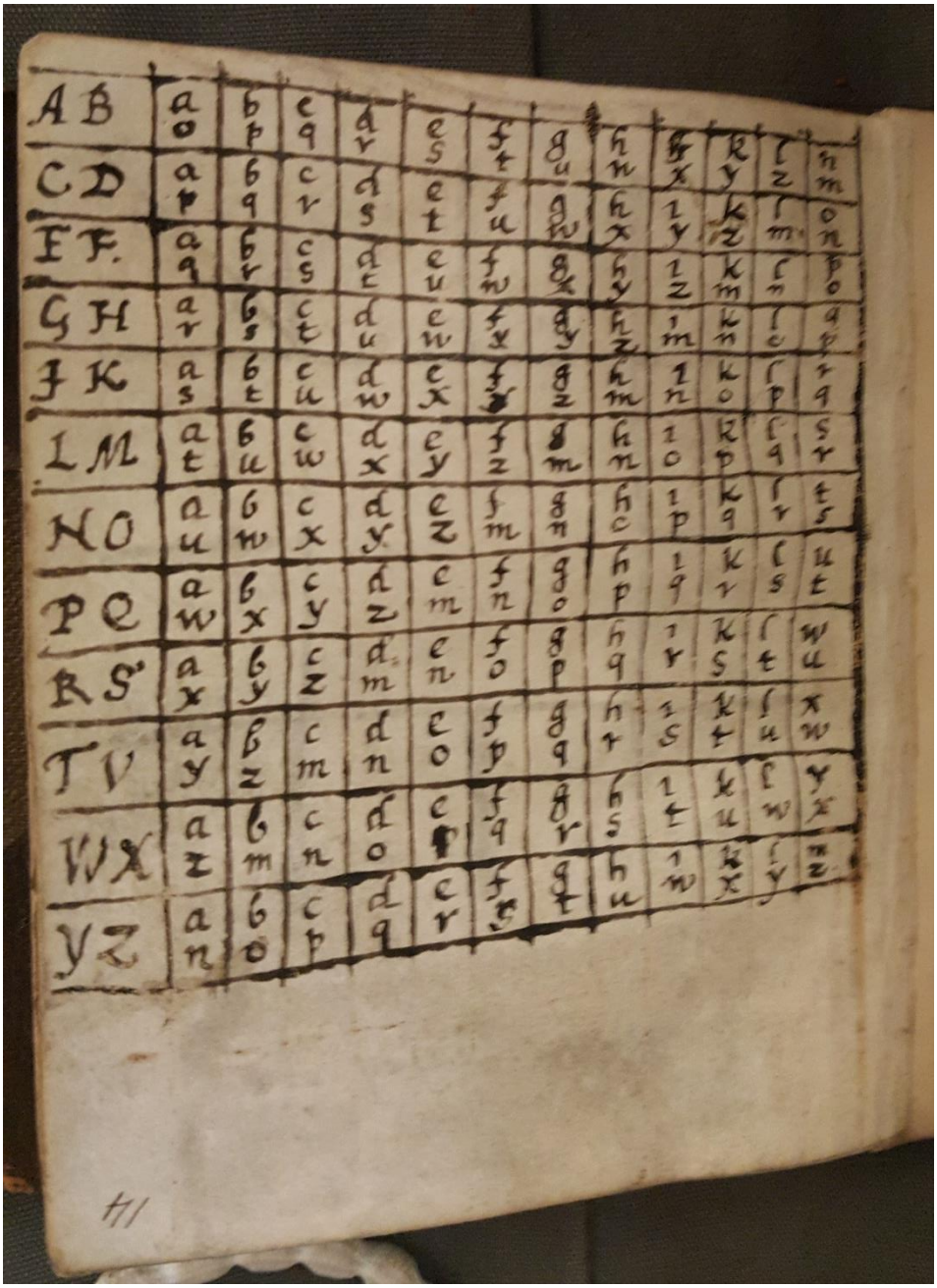


Figure 5 Alchemical Cipher, Sloane MS 1902, British Library

2 UNIQUE COPIES OF THE PRINTED *FASCICULUS CHEMICUS*

This chapter will employ a material culture approach to a single hand-press text to illustrate the uniqueness of early modern printed texts and problematize the idea that the hand-press was a canonizing technology. Until recently, scholarship has generally taken for granted that all copies within a single edition are exact replicas of one another.[113] However, if instead the concept of copying was analyzed from a scribal standpoint, in which individual reproductions are based off of an original manuscript, as well as acknowledged the 'hand' in the hand-press process (that historical actors are producing these texts one at a time by hand) then the evidence from material analysis of copies proving the uniqueness of each hand-press text will become the expectation, not the exception.[114] This will be illustrated in this chapter based on a case-study of Arthur Dee's 1631 *Fasciculus Chemicus*.

Dee's seventeenth-century hand-press publication is an interesting example of the variation within a single edition of a text due to both its explicit and secretive intentional alterations. This text also demonstrates the ways in which historical actors and their agendas influenced the production of texts by illustrating the alchemical, hermetic, and political contexts during which it was created. In his paradigm-shifting book *Bibliography and the Sociology of Texts*, D. McKenzie writes "Definitive editions have come to seem an impossible ideal in the face of so much evidence of authorial revision and therefore of textual instability… creating new versions thought appropriate to the needs of newly defined markets."[115] *Fasciculus Chemicus* shows the ways in which McKenzie is very much right to criticize the concept of a definitive

[113] Elizabeth L. Eisenstein argues that the advent of the printing press disseminated canonized knowledge that in turn effected political, social, and religious movements in her 1979 book, *The Printing Press as an Agent of Change*. While this text is important to the history of print in that it is the first of its kind to argue for a Print Revolution, the idea that the hand-press could produce exact replicas and that these texts were static after production is untrue.
[114] Johns, *The Nature of the Book*, 2.
[115] McKenzie, *Bibliography and the Sociology of Texts*, 2.

edition, through its multiple issues which created ghost editions due to previous scholars attempt to fit a fluid text into a strict bibliographical definition.

Printed texts, like any other material artifact, have unique historical lives created by their use and reuse after production.[116] However, hand-press production also contributed to the uniqueness of a text before it even reached its intended audience. While this is assumed to be the case with manuscript texts, the same can be true for hand-press books. Interventions in prefatory material meant to reach specific readers, dedicatory copies, and proof-sheets for proof readers all represent ways in which authors, printers, and publishers intentionally altered hand-press texts, and the varying forms they take. Bibliography is a method that can be applied by historians of the book in order to describe and analyze the uniqueness of a text, including a book's literary content but also its purpose as an interpretive vessel for the transmission of ideas.[117] It is the responsibility of historians of the book to investigate human intervention within texts, as books did not create themselves, but were made for specific agendas which must be historically contextualized.[118]

The physical form of any given text influences its reception. There is a direct correlation between the form and meaning of a text.[119] While digital copies of hand-press texts serve an important purpose of increasing accessibility to rare books, during a material investigation there can be no substitute for handling physical books. Unfortunately, much of the physicality of a text is lost when it becomes digitized; it becomes difficult, if not impossible, to view binding, structure, watermarks, paper quality, etc. A single digital copy is unable to portray the variation within an edition that can be gleaned by examining multiple physical copies of the same text.

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[116] Pearson, *Books as History*, 23.
[117] McKenzie, *Bibliography and the Sociology of Texts*, 61.
[118] McKenzie, *Bibliography and the Sociology of Texts*, 4.
[119] McKenzie, *Bibliography and the Sociology of Texts*, 55.

Additionally, material objects of historical media such as a book, scroll, or even a clay tablet, can survive hundreds of years, while modern digital media is rendered unreadable as new technology develops and replaces old versions in a matter of years.[120] Hand-press texts are valuable beyond the words that they circulate to readers, as societal artefacts that provide historians with evidence of production and cultural meaning that changes over time with reuse.

Each unique hand-press copy of *Fasciculus Chemicus* demonstrates the necessity for material analysis of books within the study of bibliography by examining variation in marginalia, binding, bookplates, and print anomalies. This chapter will concentrate on the latter and address the questions: How do print anomalies within a single edition challenge previous scholarly assumptions about the canonizing effects of the printing press?[121] What can the production of multiple issues of an edition for specific markets tell historians about authorial agency, intended audiences, and publication practices? That the text of *Fasciculus Chemicus* is hermetic and alchemical in nature further impacts the scope of the audience and the commercial aspect of the production of this text. Finally, how do intentional changes to the printed text between issues illustrate the relationship between book production and the intellectual and political climates within which it was created?[122]

Fasciculus Chemicus embodies a specific alchemical historical moment at the nexus of print crises, vernacularization, and secret elite knowledge, and the intentional alterations to the text between issues and editions are representative of this. In this chapter these deviations from the first issue of the text will be put in their historical contexts, and correct previous scholarly

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[120] Pearson, *Books as History*, 20-21.
[121] See Elizabeth Eisenstein's *The Printing Press as an Agent of Change* (1979).
[122] This case-study concentrates on intentional print alterations to create niche issues within a specific edition. Errata and other accidental print anomalies are outside the scope of this project. For more information on corrections to unintentional hand-press errors, see Anthony Grafton's *The Culture of Correction in Renaissance Europe* (2011).

error. The lack of publication information on the title page of the Rosicrucian issue of *Fasciculus Chemicus* led scholars to interpret it as a 1629 ghost edition of the text. The pretense of a 1644 Latin edition assumed from the title page of the Stettin reissue has been universally accepted by scholars until now, showing that one cannot judge a book by its title page. Thus, a material investigation into the book as an historical artifact is necessary in conjunction with textual analysis. The materiality of a text is just as historically fruitful as the words written on the pages, if not more so. Most important to this case study, I argue that the veracity of printed text cannot be taken for granted.

Finally, *Fasciculus Chemicus* is fruitful as a case-study into variation within a single edition of a text because this phenomenon was not an anomaly among hand-press texts. It was typical, especially in the first edition of a text, for the printer to begin setting the type with the first page of the main text of the book (beginning with the A signature) and leaving the prefatory material for last. The reason for this is to allow the author up until the final printing stages to make last minute decisions about dedications, epistles, title pages, etc.[123] Therefore it would have been possible, and likely common, for printers to print varying prefatory material; such as variant issues for a general readership, a dedicated audience, or to imitate a new edition, as is the case with the three issues of *Fasciculus Chemicus*. It is clear through a material comparison that all copies of the Latin *Fasciculus Chemicus* share a common original 1631 typesetting for the body of the text (signatures A through G), thus every Latin copy of *Fasciculus Chemicus* is part of a single edition.

[123] Belanger, "Descriptive Bibliography," 108.

The Seventeenth-century Printing of *Fasciculus Chemicus*

Previous scholarship about the printed production of *Fasciculus Chemicus* has falsely asserted that there are multiple Latin editions of the text. Confusion on the part of scholars due to assumptions made from archival sources without explicitly examining the texts themselves has resulted in a range of inaccuracies, from intentional variation mistaken for printers' errors to ghost editions which continue to haunt the scholarship today. Thus, what follows is a case study on why bibliography matters to textual scholarship. Through bibliographical description done by material analysis, it can be proven that there is only one Latin edition of the 1631 *Fasciculus Chemicus* printed as two issues in 1631 and reissued in 1644. Before situating the issues and editions of *Fasciculus Chemicus* within their respective historical contexts, it is necessary to describe the printed editions and subsequent states of *Fasciculus Chemicus*. This section will provide information on the physical hand-press process of producing the 1631 edition.

The first edition of *Fasciculus Chemicus* was printed in 1631 in Paris by Nicolas de la Vigne. Today, three issues of this edition exist.[124] The first two issues, the Paris issue and the Rosicrucian issue, were printed consecutively during the same print run. The intentional changes in typesetting between these two issues correspond to their intended market, as well as correct typographical errors. The Paris issue contains mistakes that have been corrected in the Rosicrucian issue, indicating that the Paris issue was printed first. The clearest example of this is the corrected date at the end of the 'epistle to the candid reader'. The third issue consists of two

[124] Fredson Bowers defines these terms in his 1949 reference text, *Principles of Bibliographical Description*. Edition: "An edition is the whole number of copies of a book printed at any time or times from substantially the same setting of type-pages. Edition thus includes all issues and variant states existing within its basic type-setting, as well as impressions." Issue: "An issue is the whole number of copies of a form of an edition put on sale at any time or times as a consciously planned printed unit and varying only in relation to the form of an 'ideal copy' of this unit." Reissue: "A later issue (i.e. a re-issue) is some special form of the original issue of an edition, removed in point of time from the original form which had left the printing shop to be sold and in which for the most part the original printed sheets are substantially present but with a different title-leaf."

extant copies, that claim to be printed by David Rhett in Stettin in 1644. In this case, the original title page and paratextual materials were removed and reprinted under the guise of a new edition in order to appeal to a new market. In all three issues the body of the text, signatures A through G, are typographically identical and thus the same 1631 Paris print-run. The final stage of the seventeenth-century production of *Fasciculus Chemicus* is Elias Ashmole's English translation, titled *Chymical Collections*, which was printed in London by J. Flesher in 1650. Even the English edition has interesting print variation among its copies. Two copies in particular have very wide margins as well as typographical and binding errors, indicating that they are proofs printed before the final corrections were made.

It is important to note that there are scribal copies of this text produced during the printed publication of *Fasciculus Chemicus*, further diversifying the extant copies from the seventeenth century. The scribal copies will be examined in the context of their relationship to the seventeenth-century print production of the text. This is not to suggest that scribal and printed copies of *Fasciculus Chemicus* did not influence one another, because they certainly did, and this will be argued in the following chapter. This chapter works to emphasize the materiality and unique aspects of hand-press printed texts, qualities which are taken for granted when considering scribal texts.

Timeline of the Seventeenth-Century Print Publication of *Fasciculus Chemicus*:

1631 Nicolas de la Vigne prints two issues of *Fasciculus Chemicus* in Latin

Paris issue (10 extant copies)

Rosicrucian issue (5 extant copies)

1644 David Rhett prints new title pages and paratextual material for the first edition

Stettin reissue (2 extant copies)

1650 Elias Ashmole translates and publishes *Chymical Collections* in English in London (28 extant copies)

The 1631 Paris Issue

The Paris issue is the most common extant of the 1631 Latin edition of *Fasciculus Chemicus*. Arthur Dee dedicates this issue "To the Students in Chymistry". In this dedication he describes his intentions with this text, "I pickt out some no less pleasant then wholesome Flowers, which I have made up into a *Fasciculus,* for the Ease and Benefit of Young Students, in this Art… The which (if not too boldly) I dedicate to you the Lovers of this Truth." Clearly the Paris issue is marketed to a non-expert general alchemical readership, which is somewhat of an oxymoron as alchemy is inherently hermetic and necessitates expertise and skill. However, the economic motive of the publishers and author was to sell copies. Thus, the dedication ends with this less than egalitarian sentiment, illuminating the economically driven aspects of publishing such an alchemical tract, "Farewel most Famous Men, and may ye not disdain to cherish me with your Patronage."

The prefatory material was designed to communicate the desired audience to the seller and potential owners, as well as advertise the text in a particular way. The title page is relatively typical (Figure 6). Starting from the top of the page, the long title is printed, *FASCICVLVS CHEMICVS, ABSTRVSÆ HERMETICÆ SCIENTIÆ, INGRESSVM, PROGRESSVM, coronidem, verbis apertissimis explicans, ex selectissimis & celeberrimis authoribus, tali serie collectus, & dispositus, vt non modo huius artis tyronibus, sed candidatis, summo emolumento, instar speculi Philosophiæ habeatur;à nemine hac methodo distributus*., followed by the author's Latinized name, ARTHVRI DEE, and a description of him as the great doctor to the emperor of Russia. Below Dee's professional title is a quote from Italian alchemist Lorenzo Ventura about mercury,

Nostrum magisterium incipitur, & perficitur, vna re tantum, id est Mercurio, with page number '26' cited. The lower portion of the title page is separated by decorative type, which is indicative of the print shop from which it was created. Finally, the bottom of the title page for the Paris issue include the Paris printer's information as "PARISIIS, Apud NICOLAVM DE LA VIGNE, in sua Officina in curia Palatij. M. DC. XXXI."

Following the title page is prefatory material that begins with *CHEMIÆ STUDIOSIS,* a dedication to the students of chemistry, to indicate the intended audience for this issue. Beyond serving as an invitation to a general market alchemical readership, the Paris issue's dedication flatters and encourages the reader on their alchemical quest while simultaneously requesting their patronage. It is also relevant to note that the dedication includes a decorative woodcut at the top of the page which also appears on page 1 of the text of *Fasciculus Chemicus*, the first page of chapter one, but upside-down. The matching decorative type shows that the prefatory material and the body of the text were printed in the same print shop of Nicolas de la Vigne.

After the general dedication is *CANDIDO LECTORI*, an epistle to the 'candid reader', which is signed, *Ex Musæo nostro, Moscuæ Kalend. Martij 629*. The misprint at the end of the signature is meant to describe the date of March 1629, which must have been when Dee wrote the manuscript for *Fasciculus Chemicus* in Moscow. The last portion of the prefatory material for the Paris issue is a letter in support of the text and its author from Thomas Rhodes, which begins with *IN FASCICVLVM DIGNISSIMI VIRI*. Rhodes visited Dee in Moscow on June 30, 1625 for potentially up to three years. This timeline indicates that Dee had been working on the manuscript for *Fasciculus Chemicus* for quite some time before it was published in 1631.

The prefatory material in the Paris issue includes printed text that is lacking in subsequent issues, such as the Paris printer's information on the title page and, in the case of the Rosicrucian

issue, the entire dedication to ‘the students of chemistry’. Additionally, the type settings of both the epistle to the candid reader and the laudatory letter from Thomas Rhodes are unique to this issue. The following bibliographical formula describes the ten leaves of prefatory material, the duodecimo body of the text (signatures A through G), and the two leaves of signature H that comprise the Paris issue of *Fasciculus Chemicus*.

12°: $\tilde{a}^{10}$A-G^{12}H^{2} [$6 signed (-ã4, 6; -H2)]; 96 leaves

Although the Paris issue is the version that has the most extant printed copies from the 1631 Latin edition, it has duodecimo collation anomalies. The organization of the text of Paris issue is as follows: title page, dedication to students of chemistry, epistle to the reader, letter of support from a reference (Thomas Rhodes), ten heavily cited chapters that end with corollaries, and a conclusion of observations. The majority of the body of the text (signatures A through G) follows the standard twelve-leaf duodecimo style. However, the final H signature has only two leaves and the prefatory material has only ten leaves. From this, it can be concluded that H1 and H2 were printed on the same sheet as the ten leaves of prefatory material and were cut and sewn behind the main text for a total of twelve leaves per sheet. Appendix A shows a recreation of a ã/H duodecimo layout based on a design put forward by Philip Gaskell in *A New Introduction to Bibliography*.[125] The print anomalies that create the three issues of the 1631 edition of *Fasciculus Chemicus* are exclusively in the paratextual material and the H signature. This supports the assertion that the ten pages of prefatory material (ã signature) and the two pages of H signature were type-set on a single printed sheet to complete the duodecimo layout of *Fasciculus Chemicus*.

[125] Gaskell, *A New Introduction to Bibliography*, 100.

A proper bibliographical description necessitates it be both analytical as well as critical, by first describing the states with a formula and subsequently analyzing the evidence in its historical context. Historians of the book have begun to acknowledge the very fluid process of producing hand-press texts, problematizing the concept of an 'ideal copy' of an edition within bibliographical description. The basic processes of creating a book during the seventeenth century which were always necessary are composition, correction, and printing, however, the relationships between them were ever-changing.[126] This flexibility and agency on the part of those involved in the printing process is exemplified by the multiple issues of *Fasciculus Chemicus*. Thus, instead of examining the issues as variations of an ideal copy, it is more pertinent to understand them as serving specific social niches. Each has its own authorial and publication intentions that work together to produce the desired issue. The author, Arthur Dee, and the publisher, Nicolas de la Vigne, worked together to create two issues of *Fasciculus Chemicus* in 1631 for two different audiences. The second issue produced for this edition was intended for a much more specific and secretive readership.

The 1631 Rosicrucian Issue

The following section will focus on the second issue printed during the 1631 Paris print-run, the Rosicrucian issue. It was printed immediately after the Paris issue and has both corrected typographical errors and intentional interventions in the prefatory material that are directed at a specific Rosicrucianist readership. While some of these additions directed at the Rosicrucians are hidden within the text, the clearest signifier that a Latin copy of *Fasciculus Chemicus* is a Rosicrucian issue is that the Paris printer's information is missing from the title page (Figure 7) and the dedication to the students of chemistry is replaced by a dedication to the *Fratribus Roseæ*

[126] McKenzie, *Bibliography and the Sociology of Texts*, 3.

Crucis. However, the content of the first half of the two dedications is nearly the same. This flowery dedication to "The most illustrious, bright, famous, dignified, conspicuous, of all hidden knowledge accomplished by the Brothers of the Rosy Cross", deviates from the Paris issue's general dedication half-way through the leaf ãiij verso, when it begins explicitly addressing the Brothers of the Rosy Cross. This special dedication includes multiple, rather desperate requests for patronage from the secret society. By addressing the Brotherhood as "conspicuous", Dee is pleading with them to not be invisible and acknowledging that he is aware of their existence. In doing so, Dee is participating in the traditional (and only available) means of reaching out to the secretive Brotherhood, that of textual transmission. The first printed Rosicrucian tract, the *Fama Fraternitatis* published by Johann Valentin Andreae in Kassel in 1614, elucidates that although the members of the Brotherhood and their whereabouts are hidden they will be able to receive communication intended for them, if not by word of mouth, then in writing.[127]

In the Paris issue, Dee signs off his general dedication with "your most devoted". Alternately, he signs the special dedication to the Brotherhood "your most brotherly", emphasizing his strident desire to reach the eyes and ears of the Rosicrucian brotherhood. After this special dedication, the Rosicrucian issue appears to continue as the Paris issue does, with an 'epistle to the candid reader'. However, the type of the epistle is reset for this issue. The clearest evidence of the resetting is that it begins on a recto page, while the Paris state's epistle begins on a verso. This requires further investigation into the text of the epistle for variations from the Paris issue. Some of these minor changes are corrections to misprints in the Paris issue, which indicates that the more numerous general market Paris issue was printed first and the smaller batch of the more specialized Rosicrucian issue second. There are five extant copies of the

[127] Andreae, *Fama Fraternitatis*, 31.

Rosicrucian issue out of the seventeen copies of the Latin *Fasciculus Chemicus* from the 1631 edition.[128] One of which, housed at the University of Michigan special collections, is supposed to have been owned by Sir Isaac Newton.[129]

The first deviation from the Paris issue's epistle is in the word *thesaurus* which is abbreviated in the Paris issue, but written out in its entirety in the Rosicrucian issue. Other alterations to the epistle of the Rosicrucian issue include the change from *debeat, vt ars non* in the Paris issue to *debeant. Vt ars nó*; the accent is removed from *vero*; a semi-colon is added after the word *illorum*; the comma is removed after the word *auxiliatur*; a parenthesis is added before the word *per*; there is a comma instead of a colon after the words *sustineat* and *conanti*; *geniturã* is changed to *genitura*; the first 'i' in *virides*, the first 'l' in *ille*, the 'i' in *minus*, and the 'I' in *vincens* are barely inked; a space is removed after the word *suit*; *duobus se* is changed to *duobusse*; a new line starting with *supra* instead broken by a hyphen as *su*-[new line] *pra*; the next line a hyphen is removed to fit the entire word *labore*; *cõsimilem* is changed to *cosimilem*; *attinet, decem* becomes *attinet. Decem*; the words *faceret* and *Authores* are no longer hyphenated and made to fit on the lines; the word *negabit* is changed to *infi-ciet*; the hyphen in *acutis-simos* is moved to *acutissi-mos*; *illorum* is no longer abbreviated; and the date is corrected from 629 to 1629. That there are corrections within the reset type indicates that the Paris issue was printed first, and the Rosicrucian issue second, with multiple errors having been amended.

A previous lack of material bibliographical analysis has created multiple ghost editions of *Fasciculus Chemicus*, which upon closer physical examination are actually the Rosicrucian issue of the text. Most typically the Rosicrucian issue is confused for a 1629 Moscow edition of the

[128] The five Rosicrucian Issue copies are Yna31 631d (the Beinecke Library), 8oA15 and RRz.11 (The Bodleian Library), QD 25 .D31 (University of Michigan), 1036. a38 (the British Library).
[129] Alvarez, "Another Book from the Library of Isaac Newton," https://www.lib.umich.edu/blogs/beyond-reading-room/another-book-library-isaac-newton

text.[130] This assumption was made because at the end of the prefatory 'epistle to the candid reader'Arthur Dee signs off "From my Study at Moscow, the Calends of March. 1629", in combination with the lack of printer's information on the title page. One of the two Rosicrucianist issue copies held by the Bodleian Library (RRz.11) is attributed to this ghost 1629 edition. The mistaken 1629 date is even written on the spine of this copy and was once owned by John Radcliffe (1652-1714), an English medical doctor who founded a library at Oxford, as is evident by his exlibris on the front past-down. That the date appears in both the Paris and the Rosicrucian issues clarifies that 1629 is simply the date of the epistle, not the printed text. An additional contradiction for a 1629 Moscow ghost edition is that Latin was not yet printed in Moscow during that time.[131] Therefore, the Rosicrucian issue epistle should be disregarded as signifying a 1629 Moscow edition. A second inexplicable ghost edition that came about from the lack of printer information on the title page of the Rosicrucian issue is a false 1635 edition of *Fasciculus Chemicus*. The copy housed at the British Library (1036. a38) is cataloged as 1635 but is indeed the Rosicrucian issue with an engraved title page.

In both the Paris and the Rosicrucian issues, the epistle is followed by a laudatory letter from Thomas Rhodes. Unlike the changes found in the reset epistle, the changes made to the laudatory letter are significant to this issue in order to make space for the additional line of text meant for the Brothers of the Rosy Cross. It results in a letter that at first glance appears to be identical to the general market Paris issue. In the Rhodes letter from the Rosicrucian issue, the word *enim* has been removed from the line immediately following the call to the Brotherhood, likely to make room in the text to begin each line with the same word in order to give the illusion of the letter being exactly the same as the Paris general market issue. A few other minor

[130] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 7-8.
[131] Figurovski, "The Alchemist and Physician Arthur Dee," 46.

typographical alterations were made to this letter, including *dicã* changed to *dicam*; *traden-dis* becomes hyphenated onto the following line; *Suetonius* is shortened to *Suet*.; *cs* is corrected to *cũ*; *Fœlices* is changed to *Felices*; and *pri-mum* is hyphenated onto the following line. These seemingly inconsequential changes make room in this letter for secret messages for the careful Rosicrucian reader. The following lines of text have been interjected throughout the letter: "*dignus qui non solum fraternitati Roseæ Crucis, sed etiam dignior si fiat accessio adnumereris*" and "*non meo nominee, sed fratrum Rosaæ Crucis, sed literatorum omnium*." This special call to the Brothers of the Rosy Cross, requesting they not be negligent but communicate with one another through letters, complements Arthur Dee's dedication to the esoteric fraternity that is substituted for the general dedication to the students of chemistry found in the Paris issue.

It has already been shown that the ten pages of signature ã and the two pages of signature H were printed on the same sheet during the first edition Latin print-run of *Fasciculus Chemicus*. Since changes were made to the prefatory material, the type setters used this as an opportunity to make corrections to the H signature as well. Three typographical punctuation discrepancies proves the conclusion beyond a doubt that the H signatures between the two issues are not from the same type-setting: the comma after the word *res* on page 169 (signature H recto) and the comma after the word *Philofophicum* on page 170 (signature H verso) are both missing from the Rosicrucian issue, while a comma has been added after the word *exigitur* on page 169.

The description for what will be referred to as the 'Rosicrucian issue' is as follows:

12°: $ã^{10}A\text{-}G^{12}H^{2}$ [$6 signed (-ã6; -H2)]; 96 leaves.

Notes: Some copies of this state have an engraved title page added before the ã signature outside of the duodecimo collation formula.

The main bibliographical variations for the Rosicrucian issue are that signature ã4 of the prefatory material is signed, whereas in the Paris issue it is not, the title page lacks printer information, and a dedication to the Brothers of the Rosy Cross is added in lieu of the dedication to the students of chemistry. Both the epistle and the letter begin on different pages of signature ã from the Paris issue to the Rosicrucian issue, which indicates that the typesetting of the ã/H layout was reset during the process. The Paris issue epistle begins on ã4 verso and continues to ã8 recto, while the Rosicrucianist issue epistle begins on ã5 recto and ends on ã8 verso. Similarly, the Paris issue letter begins on ã8 verso and finishes on ã10 recto, while the Rosicrucianist issue letter starts on ã9 recto and continues to the last page of the prefatory material, ã10 verso, which is left blank in the Paris issue.[132]

In addition to the title page lacking printer's information, three of the five extant copies of the Rosicrucian issue of *Fasciculus Chemicus* contain an extra-collation engraved title page. That these engraved title pages are only found in copies that lack printer information indicate that the Rosicrucian issue was created for specific recipients with whom Dee had personal relationships. The engraved title page (Figure 8) is strikingly similar to the hand written and painted title page from Arthur Dee's manuscript, *Arca Arcanorum* (Figure 9). The engraver even went so far as to imitate Dee's handwriting. However, the likeness of these two title pages is problematized by the dates of the manuscript and the print publication (1634 and 1631 respectively). While the engraved title page falls outside of the collation pattern of all copies in which it appears, instead of inferring that it was added after the creation of the *Arca Arcanorum* manuscript, it is more likely that there is a lost manuscript version of *Fasciculus Chemicus* that

[132] See Appendix B for a comparison of the signatures corresponding to the prefatory material in the Paris and Rosicrucian Issues.

both the 1631 printed text and the later *Arca Arcanorum* manuscript (which builds on the text of *Fasciculus Chemicus*) were modeled after.

While there are minor stylistic deviations in the two extant print and manuscript versions of Dee's emblem, the engraved title page is probably identical to the one from the lost *Fasciculus Chemicus* manuscript. The engraver's effort to maintain similarity of handwriting would have been extended to the much more easily replicated emblem. In the seventeenth century, manuscripts intended for print publication were not revered for their individualistic and material qualities, as they are by historians today. Instead, printer's manuscripts were simply considered the first step in the printing process, and usually a nuisance to the corrector who had to decipher handwriting and correct grammatical errors.[133] Since there was no practice of collecting book manuscripts during this time, it is unsurprising that the *Fasciculus Chemicus* manuscript is lost to us today.

An interesting example of copy-specific evidence from the Rosicrucian state of *Fasciculus Chemicus* can be found at the Beinecke Library (Yna31 631d). This copy includes a hand-written dedication from Arthur Dee to his friend John Winthrop Jr. As with the printed dedication to the Brothers of the Rosy Cross, this scribal dedication may indicate that John Winthrop Jr., a well-known follower of science and its alchemical application, was also a Rosicrucian. The Latin quote is from Ovid's, *Ex Ponto III. To Rufinus* and can be translated as "Tis not always in a physician's power to cure the sick; at times the disease is stronger than trained art."[134] During the seventeenth century, the Rosicrucian Brotherhood lacked an institutional base, so the main form of contact between members of the secret society were in

[133] Chartier and Stallybrass, "What is a book?," 190.
[134] Ovid, *Ex Ponto*, III. Translation: "Loeb Classical Library," 151:280-281. https://www.loebclassics.com/view/ovid-ex_ponto/1924/pb_LCL151.281.xml

printed alchemical tracts such as *Fasciculus Chemicus*. While there is no historical record of a Brotherhood of the Rosy Cross meeting or having an organizational hierarchy, the secret society at least existed in the literature and minds of those attempting to reach it.

Since the publication of Frances Yates' subversive monograph, *The Rosicrucian Enlightenment,* scholars have debated the veracity of some of her more subjective claims connecting John Dee's travels in Bohemia and an English chivalric influence on Rosicrucianism. However, Yates is correct that the work of John Dee was influential to the early Rosicrucian manifestos. Two of the three original Rosicrucianist tracts authored by Johann Valentin Andreae explicitly and implicitly recall John Dee's teachings: *Fama Fraternitatis Rosae Crucis* (1614) and *Chymical Wedding of Christian Rosenkreutz* (1617). In his 1986 *Ambix* article, T.M. Luhrmann argues that while Yates' claims rely on circumstantial, rather than source-based evidence, a literary analysis of the *Fama* does imply borrowing from John Dee's work. More obviously, the *Chymical Wedding* includes a printed image of Dee's *Monas Hieroglyphica,* a figure which is simultaneously an alchemical vertical hierarchy of *luna, sol, elementa, ignis* and a composite of the hermetic symbols for Mercury and Aries, as well as direct quotes from Dee's text.[135]

It was likely very influential to Arthur that the work of his father and his *Monas Hieroglyphica* were appropriated by the Rosicrucians in their early manifestos. Winthrop was also a follower of John Dee and joined Arthur in collecting texts from his father's famous, scattered library.[136] The association between John Dee and the Brotherhood would have a lasting effect on its followers, and a very real impact on Arthur Dee. A 'Mr. Townsend' wrote to Elias

[135] Luhrmann, "An Interpretation of the Fama Fraternitatis," 1.
[136] Calis, Clark, Flow, Grafton, McMahon, and Rampling, "Cultures of Reading in the Winthrop Family, 1580-1730," 98.

Ashmole in answer to his query whether John Dee was a Rosicrucian, that "Dr. Dee is acknowledge for one of ye Brotherhood of ye R.Cr. by one of that Fraternity, whoe calleth himself Philip Zeiglerus, Francus…" [Ano. C. 1626]. Gabriel Naudé, a French anti-Rosicrucian polemic and author of *Instruction à la France sur la vérité de l'histoire des Frères de la Rose Croix* (Paris, 1623), included John Dee's *Monas Hieroglyphica* in his list of works that embody Rosicrucian philosophy.[137]

In his 1977 *Ambix* article, "Arthur Dee and Johannes Bánfi Hunyades: Further Information on their Alchemical and Professional Activities", John Appleby claims that there is a dedication to the Rosicrucian brotherhood in Arthur Dee's unpublished manuscript *Arca Arcanorum* (1634) and also refers to a 1629 ghost edition of *Fasciculus Chemicus* which does not exist.[138] There is also no Rosicrucian dedication in Dee's manuscript. Appleby has clearly conflated the Rosicrucian issue of the 1631 Latin *Fasciculus Chemicus* with *Arca Arcanorum*. It is unsurprising that Dee did not include a signal to the Brotherhood of the Rosy Cross in his unpublished manuscript. It would not have aided in the ultimate goal of the Rosicrucian issue of *Fasciculus Chemicus*—that of reaching the secret society. A manuscript of which there is only one copy is much less likely to find its way into the hands of the Brotherhood than multiple copies of a special Rosicrucian issue of a well-known text. *Fasciculus Chemicus* was contemporaneously listed in catalogs of alchemical texts, such as *Bibliotheca Chimica. Sev Catalogus Librorum Philosophicorum Hermeticorum* (Paris, 1654), and was revered enough in intellectual circles to warrant translation into English by Ashmole in 1650.

Although there was clearly a risk for those involved in printing an explicit Rosicrucian state in 1631, *Fasciculus Chemicus* added to the over 400 tracts published between the dates of

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[137] Yates, *The Rosicrucian Enlightenment*, 144.
[138] Appleby, "Arthur Dee and Johannes Banfi Hunjades," 100.

1614 and 1625 that address the Brotherhood.[139] This text is anomalous in printing a dedication to the Brotherhood during this period, as multiple scholars have claimed there was a dearth in Rosicrucian printed texts after 1625.[140] The explicit dedication to the secret brotherhood in conjunction with the hidden messages found in this version of Rhodes' letter explains the missing printer information. During the early seventeenth century, some influential religious groups in Europe considered Rosicrucianism a cause for imprisonment, specifically the Jesuits and Lutherans.[141] The infamous case of the Parisian Roze-Croix placards, which mocked the Brotherhood and caused much fear and aversion toward the society, took place in 1623 just eight years before the Paris publication of *Fasciculus Chemicus*.[142] Arthur Dee must have been aware of the animosity surrounding Rosicrucianism that necessitated discretion concerning any information that could be traced back to a print shop or publisher, especially one in Paris.

In order to historically contextualize Arthur's Rosicrucian issue, it is necessary to unpack the very strange series of events that was the Paris Placards Incident of 1623. The account of this elaborate hoax is well known and was contemporaneously documented by Sir Theodore Turquet de Mayerne, a friend, fellow alchemist, and royal physician colleague of Arthur Dee's, with whom he had a lively correspondance. De Mayerne was a Genovese physician who served the English crown during James I. He was known to have an affinity for subversive political pamphlets and worked with Parisian alchemist Joseph du Chesne, all of which connected him on a quite personal level to the Paris plaquards incident. During the summer of 1623 (June according to de Mayerne's letter), posters were put up at crossroads and on church doors alerting

[139] Kahn, "The Rosicrucian Hoax in France (1623-24)," 238.
[140] See both Frances Yates' *The Rosicrucian Enlightenment* (1972) and Arthur Edward Waite's *The Real History of Rosicrucians* (1887)
[141] Kahn, "The Rosicrucian Hoax in France (1623-24)," 241-242.
[142] Kahn, "The Rosicrucian Hoax in France (1623-24)," 244, 252.

Parisians to the presence of "representatives of the Principal College of the Brothers of the Rose-Cross" by Etienne Chaume and his friends as a joke to mock the followers of medieval alchemist Ramon Lull and the Brothers of the Rosy-Cross.[143]

The entry in de Mayerne's letterbook (British Library, MS 20921) describes the incident under the heading "Fratres Societatis Roseæ Crucis". The first section on this page is a description of the content on the placards in French, which is corroborated by an account produced by Gabriel Naudé.[144] While these two accounts agree, there is a divergence among other sources, which could be interpreted as evidence of multiple posters having been circulated.[145] Below de Mayerne's first description of a poster (continued in French) is a list of ten "Articles de propositions faites par les freres de la Croize Rosée". Each article is a cabalistic question, of which the source is unknown. No other accounts of the placards mention these specific queries. The ten articles are followed by this advice in English,

> "This beinge fastned in diverse parts of Paris, there is strigt order given, to inquire after these pretended brothers; but yf they keepe them selves upon the invisible in their propositions, I doubt not, but they will bee thought as well, imperceptible in their Cabalisticall propositions."

The second half of the page, below de Mayerne's warning to the Brotherhood, is in Latin and refers to the "theses and problems filled with a more-than-Platonic spirit" posted on the street corners of Paris.[146] This epistle is signed June 13, 1623, the month of the Paris placards scandal.

[143] Kahn, "The Rosicrucian Hoax in France (1623-24)," 235.
[144] Kahn, "The Rosicrucian Hoax in France (1623-24)," 259.
[145] Kahn, "The Rosicrucian Hoax in France (1623-24)," 244.
[146] Kahn, "The Rosicrucian Hoax in France (1623-24)," 257.

Didier Kahn interprets this letter as delineating three of the multiple posters circulated; one in French prose, the list of ten Cabalistic articles, and the Latin epistle.[147]

It is clear from both de Mayerne's entry on the subject and Arthur Dee's dedication pleading with the Brotherhood to be "conspicuous" in their patronage, that the unease with the secretive society is due to just that—their believed invisibility. This collective cultural and religious anxiety was caused by the belief that only diabolic societies would necessitate secrecy. While the 1623 Paris placards were indeed a hoax, in that they were intended as a joke by their authors, it was not a hoax for believers such as Arthur Dee nor ecclesiastical and political authorities. The placards caused so much tension in Paris that the Parliament ordered an investigation.[148] However, this was not the first instance of French hostility toward the Brotherhood. The main reason for French disillusionment with the Rosicrucians was their perceived connection to Paracelsian alchemy. There had been a backlash against the medical teachings of Paracelsus in France since the late sixteenth century.[149] The alchemical belief that antimony could extend natural life was mutually exclusive with Catholicism and rumors arose that Paracelsus was an atheist.[150]

In the printed *Collection of Philosophical Conferences of the French Virtuosi* (first published in French in 1656) there is a section on the Brotherhood of the Rosy Cross.[151] This investigation into the virtues of Rosicrucianism claims that the esoteric society began in Germany between two and three-hundred years ago, that their most important law is secrecy, and that they hold the knowledge to create the philosophers' stone. The meeting members come to

[147] Kahn, "The Rosicrucian Hoax in France (1623-24)," 259.
[148] Kahn, "The Rosicrucian Hoax in France (1623-24)," 252.
[149] Kahn, "The Rosicrucian Hoax in France (1623-24)," 263.
[150] Kahn, "The Rosicrucian Hoax in France (1623-24)," 291.
[151] *Collection of Philosophical Conferences of the French Virtuosi,* 2:321.

the conclusion that while the society claims to be invisible, this only means that they have no visible signifiers to distinguish a person as a member, but members have the ability to differentiate a member from a non-member.[152] Therefore, it was determined that the only claim against the Brotherhood is that of invisibility. This is corroborated by Dee's special dedication to the society in the Rosicrucian issue of *Fasciculus Chemicus* where he begs them to show themselves and thus initiate him as a member, which would be necessary if indeed they were only visible to other members.

Arthur Dee may have published his alchemical opus in Paris in 1631 for a number of reasons. Certainly the Rosicrucian variant issue would have necessitated choosing a printer who also bought into that particular belief systems enough to painstakingly reset the sheet for ã/H in a political climate which was unfriendly to the cause to say the least. It has also been noted previously in this chapter that Latin was not yet printed in Russia. However, Dee had many other options for printing beyond Russia, particularly his homeland of England, begging the question: Did Dee publish in Paris to attract the attention of the Brotherhood following the frenzy of the 1623 Placards Incident?

In the early part of the seventeenth century, around the time of the Paris placards scandal, royal edicts were put in place in Paris in an attempt to guarantee nothing would be printed without royal privilege.[153] Nicolas de la Vigne, while not directly dealing with the Paris placards, was known to print and sell illicit materials at his print house during the period of the Fronde. His print house marketed political pamphlets and black market book deals.[154] An example of his involvement, even after the Fronde, was in 1655 when de la Vigne attempted to purchase fifty

[152] *Collection of Philosophical Conferences of the French Virtuosi,* 2:326.
[153] DeJean, *The Reinvention of Obscenity*, 60.
[154] DeJean, *The Reinvention of Obscenity*, 61.

copies of the clandestine book *L'Ecole des filles* for resale, but the printer (L'Ange) was intercepted by authorities and arrested.[155] Political pamphlets printed during the Fronde were legally required to notify the reader on the title page that they were printed "avec permission", including de la Vigne's "Apologie Povr Messievrs dv Parlement Contre Qvelqves Libelles faicts à S. Germain en Laye." (1649), which, considering his later transgressions, rings a bit false. It is apparent that de la Vigne was a printer willing to circumvent authorities in order to make revenue and print illicit texts.

It is interesting that Arthur Dee chose to work with and support a printer that went against French royal prerogative again and again, as Dee was clearly a loyal royalist to his King of England, Charles I (as is shown by his many letters from Russia requesting the King's royal patronage and his professional history of serving as Royal Physician in England and Russia, examined in detail in the previous chapter). England was beginning to see the seeds of revolution and its inextricable connection to the innovations of the hand-press during the time that *Fasciculus Chemicus* was published. In England, the majority of anti-royalist propaganda was published at home. There was a direct correlation in the 1630's between the increasing number of printed oppositional works and the King's rejection of print and lack of communication with his subjects.[156]

To address Dee's decision to publish in Paris and not England, one can examine other English authors of Rosicrucian tracts who chose to print outside of England. Robert Fludd, contemporaneously well-known for his staunch support of Rosicrucianism, is an obvious example. To him, Rosicrucianism meant a Cabalistic interpretation of the university and the

[155] DeJean, *The Reinvention of Obscenity*, 63.
[156] McElligott, *Royalism, Print and Censorship in Revolutionary England*, 15.

pursuit of alchemical knowledge.[157] All of Fludd's Rosicrucian tracts were published abroad.[158] His book *Tractatus Theologo-Philosophicus,* which was dedicated to the Brotherhood, was published in Oppenheim and *Tractatus Apologeticus Integritatem Societatis de Rosea Cruce defendens* in Leiden. Both were published in 1617, the year that the final of the three Rosicrucian manifestos were printed and circulated. It is important to note that Fludd was living in England when he wrote these works and chose not to publish in his country of residence.[159] His relationship between his homeland and his esoteric beliefs was fraught. In 1631, coincidentally the year that Dee published *Fasciculus Chemicus* in Paris, Dr. William Foster, an Anglican parson, attacked Fludd's Paracelsian medicine as dark magic and accused him of not publishing in England because of his diabolical beliefs.[160]

Many have claimed that Fludd is the final outspoken Rosicrucian in England before the reestablishment of the crown post-civil war. Waite specifies the year 1629 as the close of the first period of English Rosicrucian literature, a cause which would not be taken up again until the 1650's according to other scholars, when English translations of Rosicrucian manifestos appear in 1652.[161] In her 2011 article, "Secrets Revealed: Alchemical Books in Early Modern England", Lauren Kassell shows the dearth in alchemical publishing in England during the English Civil War and the subsequent spike during the Restoration through an analysis of William Cooper's *A catalogue of chymicall books* (1688).[162] After this insecure moment in English royal history, this prolific period in hermetic publishing flourishes well into the reign of Charles II. The renewed

[157] Waite, *The Real History of Rosicrucians,* 278.
[158] Waite, *The Real History of Rosicrucians,* 340.
[159] Fludd also influenced his friend William Harvey to publish with an English publisher living abroad in Frankfurt that he himself used, adding yet another English natural philosopher to the list of Englishmen choosing to publish outside of their home country. Thus, this was a trend before the English Revolution. (Weil, "William Fitzer, The Publisher of Harvey's *De Motu Cordis,* 1628," 143.)
[160] Yates, *The Art of Memory,* 323.
[161] Waite, *The Real History of Rosicrucians,* 340.
[162] Kassell, "Secrets Revealed," 61.

interest in publishing hermetic texts in England coincides with Elias Ashmole's translation and publication of *Chymical Collections* in English (1650) as well as his copied Rosicrucian manuscripts (MS Ashmole 1459).[163] If Fludd, who published all of his Rosicrucian texts abroad, is considered the last English Rosicrucian until after the civil war, then Arthur Dee, who was also an English alchemist publishing Rosicrucian texts abroad, problematizes this supposed twenty year gap in English Rosicrucian literature.

The impact of a mid-seventeenth-century print crisis simultaneously affecting Interregnum England and Fronde France was felt in the alchemical print community, if not more so, due to the anxiety surrounding what was deemed heretical aspects of Paracelsianism. There was a correlation between the collapse of print regulations and a rise in demand for controversial publications.[164] The reward outweighed the risk for many printers, including de la Vigne, which is likely why he continued to print and sell illicit material after regulations were reinstated. Clearly printing in England was not an attractive option for Fludd nor Dee, and de la Vigne offered Dee a reliable alternative in the heart of the Rosicrucian drama of the post-1623 Paris placards incident. It would have required a lot of trust and investment in the Rosicrucian cause to print the Rosicrucian issue of *Fasciculus Chemicus,* especially during the controversial period of Rosicrucianism and Paracelsian. Thus, it can be concluded that Dee and de la Vigne had an intimate relationship that swayed Dee to publish at de la Vigne's print house.

The 1644 Stettin Reissue

All of the differences between the issues and reissues of *Fasciculus Chemicus* problematize the concept of an 'ideal copy' of a hand-press text. Bibliographers refer to an 'ideal copy' to highlight the intention of the producers of a book. In theory, an 'ideal copy' would be

[163] McLean, "The Manuscript Sources of the English translation of the Rosicrucian Manifestos," 273.
[164] DeJean, *The Reinvention of Obscenity*, 56.

the version of a text that most closely matches the intention of the author/printer/publisher. However, there is push-back against the necessity of this concept in current bibliographical scholarship. The many hands that participate in the creation of a hand-press text as well as the infinite possibilities of reception require a more nuanced interpretation of authorial intention.[165] Further, with three clearly identifiable issues within a single edition of *Fasciculus Chemicus*, this case-study shows the ways in which a hand-press text can be intentionally altered for divergent audiences and markets. At the least, this edition would have three separate ideal copies to highlight the intention of the text immediately after production. What would it look like to do away with this concept completely in order to understand hand-press texts as unique copies? The Stettin reissue presents a particular problem for bibliographical description as it claims to be something that it is entirely not in order to reach its intended audience.

Although Arthur Dee left continental Europe in 1635, at least two copies of the 1631 Latin edition of *Fasciculus Chemicus* found their way to Stettin (present day Poland) in 1644. The title page of these copies parades them as a second Latin edition of *Fasciculus Chemicus* published in Stettin by David Rhete in 1644 (Figure 10). As this is not actually the second edition it claims to be, but a reissue of the first edition, it will be referred to as the Stettin reissue. The two copies of this version are reissues of the original 1631 edition to which the Paris and Rosicrucian issue also belong. The illusion of an entirely new edition of the text was the intention of the publisher, done in order to market the thirteen-year-old text to a new audience. To accomplish this, the printer made efforts to hide any evidence that it is a reissue. This is executed in the form of a new title page, discarded prefatory material (markedly the 1629 epistle to the candid reader), in one case a reprinted H signature, and in the other reprinted prefatory

[165] Pearson, *Books as History*, 81.

material. This reissued state is clearly meant to make an old text attractive to a new market by the bookseller, who had at least two (presumably more in order to make the enterprise financially viable) remaindered copies of the 1631 Latin *Fasciculus Chemicus* lying around.

As there are significant collation variations between the two extant copies of the Stettin reissue, it is necessary to describe the Universidad Complutense Madrid copy (BH MED Foll.123) and the Beinecke Library copy (Mellon Alchemical 91) with separate formulas.

(BH MED Foll.123)

12°: ã^{4}A-G^{12}H^{2} [$6 signed]; 87 leaves.

Notes: This copy is missing the final G signature (G12) and the entirety of the H signature. The text ends on page 166.

A reprinted dedication to the students of chemistry is only present in the Stettin reissue held by the Universidad Complutense Madrid. This is the only extant prefatory material in this reissue. The printer would clearly want to avoid including parts of the prefatory material that contain references to specific dates, as this might indicate that these copies are reissued and not entirely new editions as they were intended to be perceived. The reprinted dedication was done at the same printing house as the new title page. This can be verified due to the reuse of the specific decorative type ornaments used for the reprinted title page. The final six pages of the body of the text are missing from this copy, which would have contained the H signature typically printed on the same sheet as the prefatory material. The text abruptly cuts off in the middle of the twelfth *Observanda*, which is why this copy only has 87 leaves.

(Mellon Alchemical 91)

12°: ãA-G^{12}H^{2} [$6 signed]; 87 leaves.

The other extant copy of the Stettin reissue, which is held by the Beinecke, has no prefatory material is its current form today. The first chapter of *Fasciculus Chemicus*, printed in 1631 in Paris, begins immediately after the reissued title page claiming a 1644 Stettin edition. In this copy, the printer has attempted a facsimile reproduction of the H leaves at the end of the text. However, a couple of variations differentiate the reprinted H signature from the original 1631 typesetting. The printer has added "Chem" to the running title at the top of the last page as well as omitted the italic quote at the end, which an owner has compared to another copy of the text and added by hand. Another way in which the Stettin printer deviated from the original printed text is that he signed the reprinted pages with Arabic numerals, while all other signatures from the original 1631 print run are in Roman numerals. An obvious signifier that the paratextual material was printed separately from the 1631 print run is the difference in paper quality. The reprinted title page and H signatures have clear vertical lines and the paper is much stiffer, while the pages from the 1631 printing have deckled edges and are very soft.

It was not unusual for unbound sheets of printed books to sit unsold, sometimes for years. There was also a German printing diaspora due to the Thirty Years War creating wide-reaching networks of printers and publishers across Europe, which may have contributed to this text ending up in Stettin.[166] Typically these would later be reissued with a new title page, with the later date and sometimes a variant title in order to convince customers that they were buying something new, but binding them with the non-paratextual sheets from years before.[167] While this was not uncommon, the decision to reprint and/or remove the paratextual material from the 1644 Stettin issues has broader implications for readership practices. Much of the prefatory information found in the previous issues of *Fasciculus Chemicus* was directive. How did the lack

[166] Penman, "A Heterodox Publishing Enterprise of the Thirty Years' War," 3.
[167] Pearson, *Books as History*, 85.

of some (or all) of the paratextual material inform the reception of the rest of the text? Could an alchemical text be utilized without authorial guidance and instruction? Was a text considered complete without prefatory material? That an owner found a different copy of *Fasciculus Chemicus* for comparison and scribally added the italic quote on the final page shows that readers were aware of print anomalies and desired the most complete version of a text. Readers' interactions with the materiality of the variant issues of this text can teach historians about how alchemical texts were read, circulated, shared, and collected.

It is not certain that David Rhete actually printed the 1644 reissued *Fasciculus Chemicus.* Multiple sources contradict the information on the title page of the reissue, and it is clear that the main claim being made, that these are new editions, is false in order to present an old edition to a new market. While someone by the name of David Rhete did run a print shop in Stettin in the early seventeenth century, The Directory of Seventeenth-century Prints Published in German-speaking Countries lists the date of Rhete's death as 1638.[168] A family member named George appears to have taken over his print shop after his death, but this does not explain why David's name is printed on the title page of a purported 1644 reissue of *Fasciculus Chemicus*. Therefore, scholars should not take for granted the ways in which a hand-press text markets itself as the historical reality of a book's production. While the contradictions presented on the title page of the Stettin reissue show the ways in which a text would have looked attractive to a new audience, it can be concluded that it was possible and likely profitable to falsely advertise a text in an attractive way. Further, this reissue of *Fasciculus Chemicus* exemplifies the aspects of a hand-press text that a potential owner would have been interested in, such as the attribution of a more reputable printer (David Rhete) after his death.

[168] Other texts printed by David Rhett in his Stettin print-shop include "De Confectione Alchermes" (1634).

The 1650 English Edition

The second edition of *Fasciculus Chemicus* was translated and published by Elias Ashmole in 1650. He used the 1631 Latin Paris issue to create his translation, although he makes the editorial decision to omit the letter from Rhodes in favor of self-promotional prefatory material. While Ashmole rather literally translated Dee's Latin title as *Chymical Collections* and used it as the title of his 1650 English publication, he included a second, shorter text immediately following *Fasciculus Chemicus*. Interestingly, many scholars and collectors have confused this translation of *Fasciculus Chemicus* for an original work by Ashmole, but the second text bound with it is always correctly attributed to alchemical author Jean D'Espagnet.[169]

It was printed in London, unlike the issues of the Latin edition. In the almost twenty years that passed between the printing of the first and second editions of *Fasciculus Chemicus*, England was embroiled in civil wars and a regicide, the latter just a year prior to Ashmole's publication. During this time the city of London became home to specifically royalist printing stronghold,[170] and Ashmole published in the comfort of this as he refers to "his late Majesty" in the preface to this translation.[171] Ashmole's London printer was J. Flesher for sale by Richard Mynne. The London printing/bookseller duo also printed and sold texts for Meric Casaubon,[172] known for his less than laudatory biography of John Dee titled *A True and Faithful Relation of What Passed for Many Years Between Dr. John Dee and Some Spirits* (1659). That Flesher and Mynne explicitly printed and sold at St. Paul's Cathedral in London indicates that their texts

[169] It is incorrectly attributed to Ashmole in the *Bibliotheca Rosicruciana* (1903), "This was his first work on Hermeticism and probably was inspired by *Wm. Lilly*, the Mystic."
[170] Myers and Harris, *Censorship & the Control of Print in England and France 1600-1910*, vii.
[171] Dee, *Fasciculus Chemicus*, English edition, A6r.
[172] Texts printed by Flesher and sold by Mynne for Casaubon are many, including *Arcus Aurelius Antoninus the Roman emperor* (1634), *The Originall Cause of Temporall Evils* (1645), *Discourse Concerning Christ* (1646), and *Merici Casauboni, de Quatuor Lingfuis* (1650).

were acceptable to the Stationers' Company, the state and church sanctioned printer's guild.[173] The English edition of *Fasciculus Chemicus* was contemporaneously well known and is mentioned in William Cooper's *Catalogue of Chymicall Books* (1673).[174]

There are a few print anomalies within this edition that illuminate the materiality of this translation. Some copies, such as the one at Harvard's Houghton Library (GEN 24226.34.5), are missing Ashmole's custom commissioned frontispiece (Figure 11). This shows that the frontispiece falls outside of regular collation patterns of the text. What is especially curious is that two copies of the English *Chymical Collections* (Ashmole's annotated copy at the Bodleian Library [MS Ashmole 1664] and the copy held in the Wellcome Collection [EPB/A/19874]) include Ashmole's prologue after the body of the text (where it typically appears before the main body of the text) followed by the post-script signed "James Hasolle, 1 April 1650". Both copies also have a shadow print of the horoscope found in D'Espagnet's text on the title page of *Chymical Collections*. Most importantly, they have the exact same correction on the title page (Figure 12), where the 'y' in "*Mercuriophylus*" is struck out and an 'i' is scribally added above the 'y'. Every other copy of this text, besides these two, spells "mercuriophilus" with the 'i' rather than 'y'. This not only indicates that the title page, and possibly other pages as well, have been reset and reprinted, but also that the owners of these two anomalous copies were referencing the typical copies, as *mercuriophilus* was not a term that would be in the common vernacular, especially not with a particular spelling ascribed to it. These two copies share the quality of having extremely wide margins, indicating either that they have never been trimmed

[173] There is scholarly debate as to how much control the Stationers' Company had concerning censorship and to their competency. Jason McElligott argues that the Company could create conditions to make publication of illicit or salacious materials difficult, although their capacity to control printing was limited. (McElligott, *Royalism Print and Censorship in Revolutionary England*, 211-215.)
[174] Kassel, "Secrets Revealed," A9.

for rebinding or that these two copies are examples of a variant state of the 1650 English edition of *Fasciculus Chemicus* (*Chymical Collections*) meant either as proofs or dedicatory copies.

Conclusion

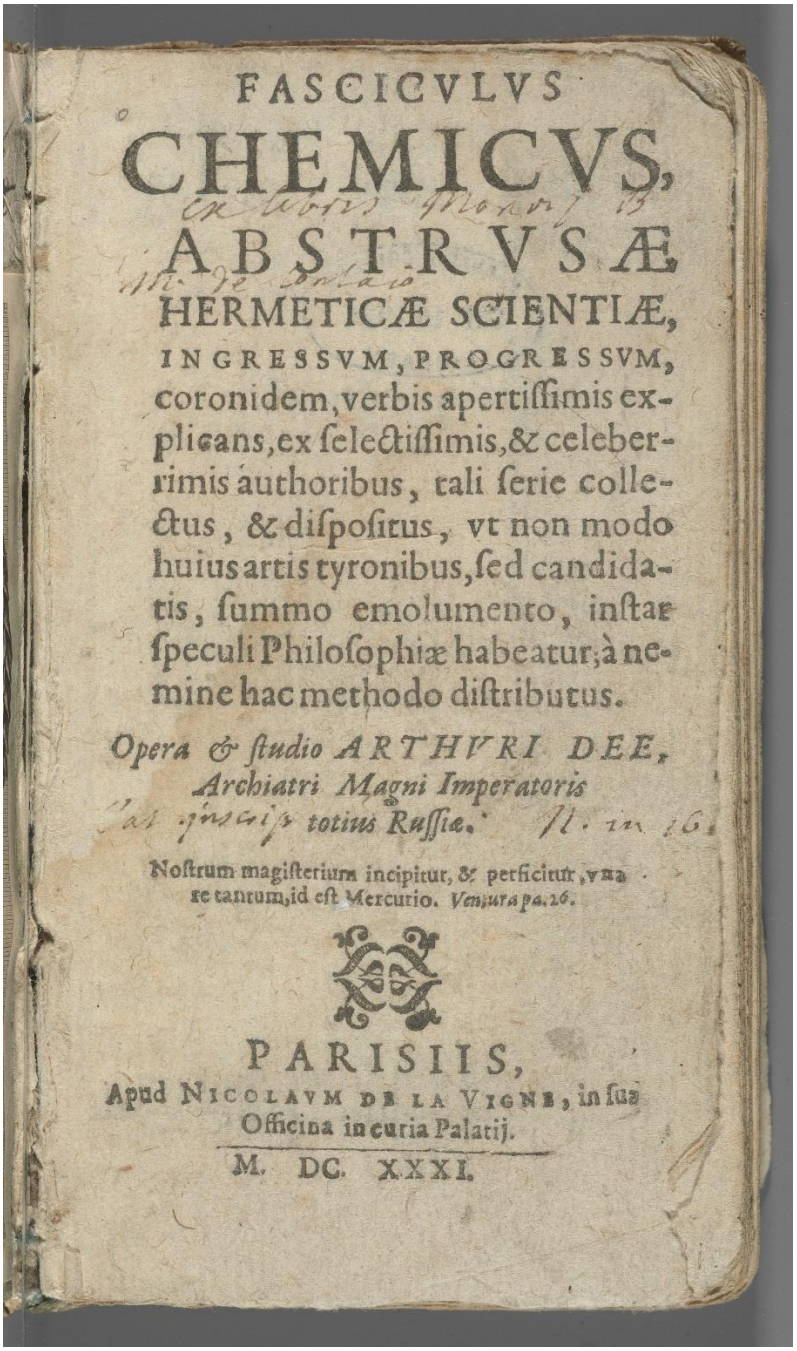
The Stettin reissue and English edition of *Fasciculus Chemicus* prove that this was not a static text after Arthur Dee's original 1631 publication in Paris.[175] This chapter draws from a recent book history trend of challenging the terminology created by bibliographers as too narrowly defined. The variation of the printed prefatory material and final H leaves demonstrate the intentionality and agency of printers, publishers, booksellers, and authors to create multiple issues from a single edition for specific intended markets and audiences. Additionally, this study illustrates the interconnectedness of the various hands that contribute to a text's production.

The new model for book production put forth by Thomas R. Adams and Nicolas Barker inverts the concept of individual people creating an object. Instead, they suggest that ideas, society, and politics impacted various stages of production.[176] By removing the job titles of 'publisher', 'author', etc. from the communication circuit of book production, the overlapping roles of all those involved can be understood. Specific to alchemical book production, hand-press printers of alchemical texts were known to be conscious of their role in preserving and canonizing alchemical knowledge.[177] The individual aspects of creating the 1631 Latin edition of *Fasciculus Chemicus* were intertwined and all creators (be it author, printer, bookseller, etc.) were invested in the right alchemical knowledge reaching the correct audience. So much so that they were willing to painstakingly reset type for hidden messages to reach the Rosicrucian

[175] The publication of *Fasciculus Chemicus* continues into the twentieth century, as a second English edition based on Ashmole's was published by Lyndy Abraham in 1997.
[176] Adams and Barker, "A New Model for the Study of the Book," 14.
[177] Clucas, "John Dee, Alchemy, and Print Culture," 108.

Brotherhood or to reprint prefatory material and create false title pages in order to renew interest in a first edition.

The scope of this chapter is print anomalies within the seventeenth-century editions of *Fasciculus Chemicus*. The existence of scribal copies as well as marginalia and other material additions to the printed books present even more variation to the unique copies of *Fasciculus Chemicus*, which will be unpacked in chapters three and four. As a micro-historical analysis, the evidence from the seventeenth-century editions and issues of *Fasciculus Chemicus* exemplifies the myriad ways in which early modern printers, authors, publishers, booksellers, and readers might physically alter a text for any number of reasons. It also shows the overlap in roles between the various stages of print production. Finally, this case-study shows that print was not static and that copies from a single edition could be and were manipulated for various agendas and intended audiences. A material analysis of text is necessary to contextualize and investigate the history of the book during the hand-press period.



FASCICVLVS

CHEMICVS,

ABSTRVSÆ

HERMETICÆ SCIENTIÆ,

INGRESSVM, PROGRESSVM,

coronidem, verbis apertissimis explicans, ex selectissimis, & celeberrimis authoribus, tali serie collectus, & dispositus, vt non modo huius artis tyronibus, sed candidatis, summo emolumento, instar speculi Philosophiæ habeatur; à nemine hac methodo distributus.

Opera & studio ARTHVRI DEE,
Archiatri Magni Imperatoris totius Russiæ.

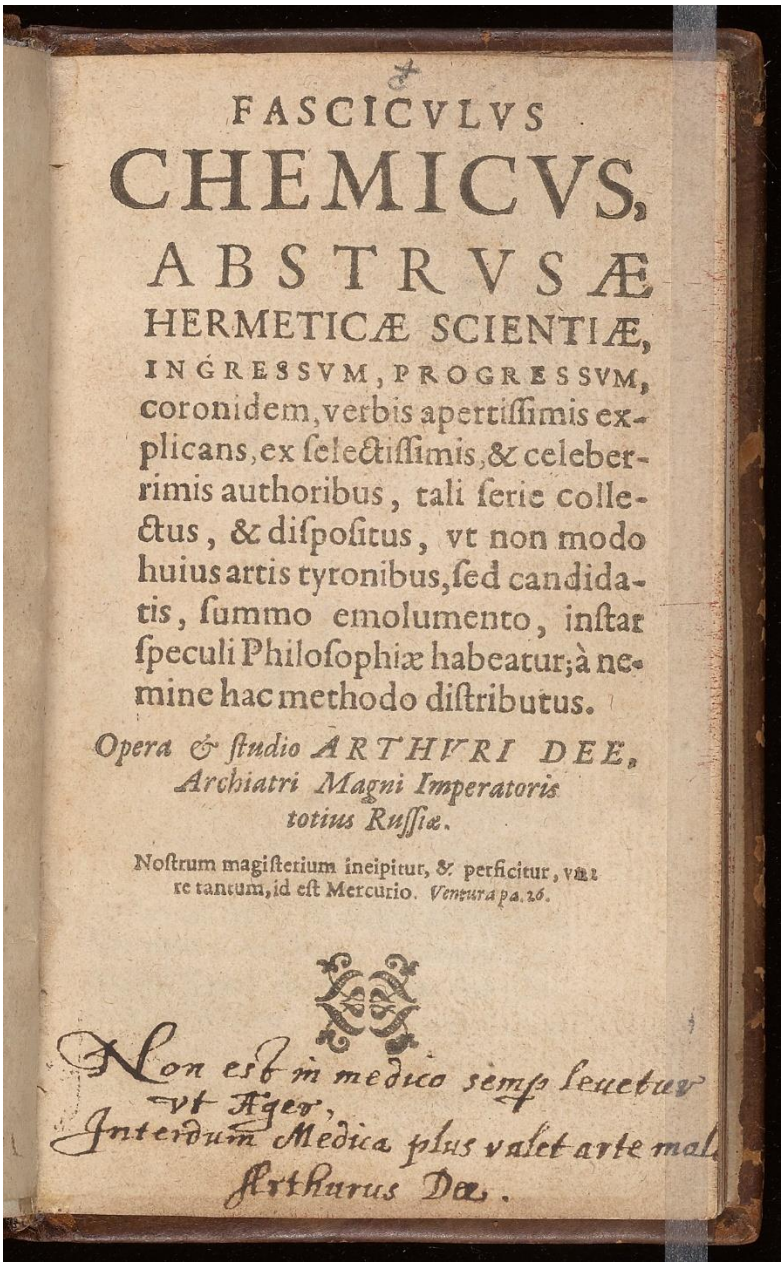
Nostrum magisterium incipitur, & perficitur, vna re tantum, id est Mercurio. *Ventura pa. 26.*

PARISIIS,

Apud NICOLAVM DE LA VIGNE, in sua Officina in curia Palatij.

M. DC. XXXI.

Figure 6 Paris Title Page, Houghton Library



FASCICVLVS
CHEMICVS,
ABSTRVSÆ
HERMETICÆ SCIENTIÆ,
INGRESSVM, PROGRESSVM,
coronidem, verbis apertiſſimis explicans, ex ſelectiſſimis, & celeberrimis authoribus, tali ſerie collectus, & diſpoſitus, vt non modo huius artis tyronibus, ſed candidatis, ſummo emolumento, inſtar ſpeculi Philoſophiæ habeatur; à nemine hac methodo diſtributus.

Opera & ſtudio ARTHVRI DEE,
Archiatri Magni Imperatoris
totius Ruſſiæ.

Noſtrum magiſterium incipitur, & perficitur, vna re tantum, id eſt Mercurio. *Ventura pa. 26.*

Non est in medico semp leuetur vt Æger,
Interdum Medica plus valet arte mal
Arthurus Dee.

Figure 7 Rosicrucian Title Page, Beinecke Library

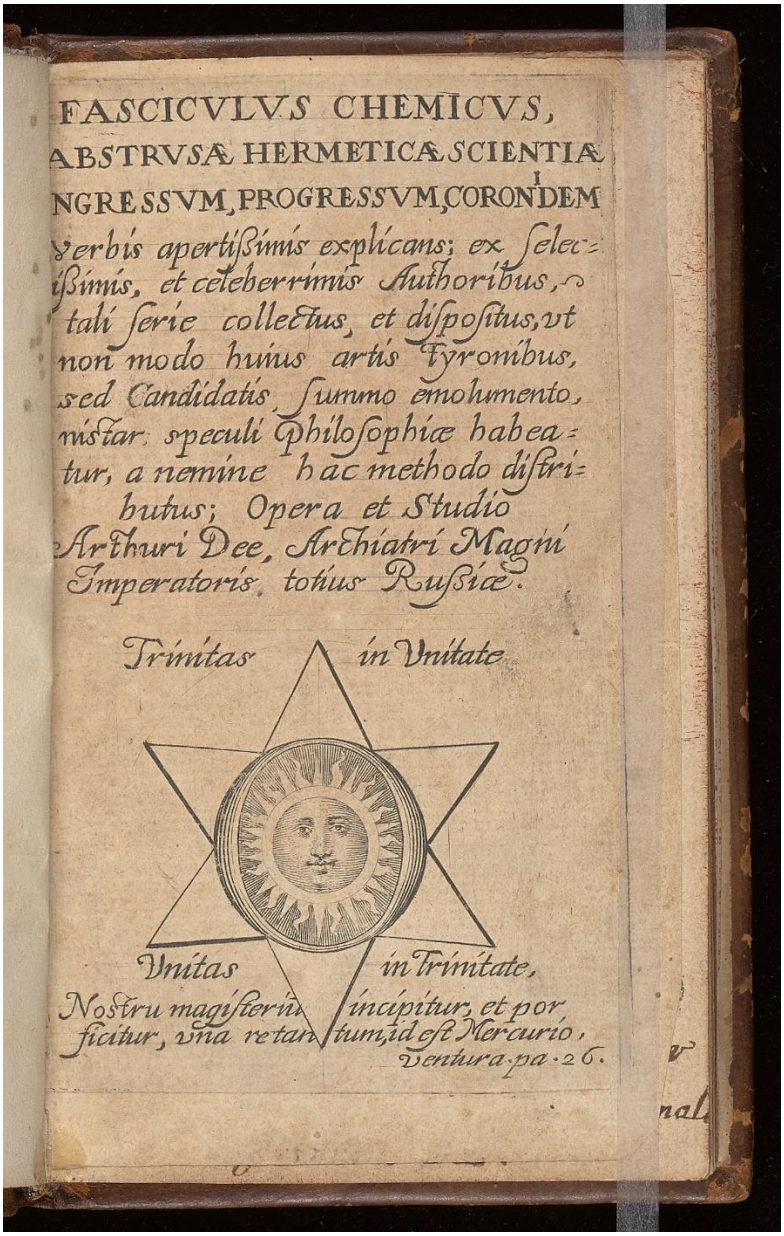
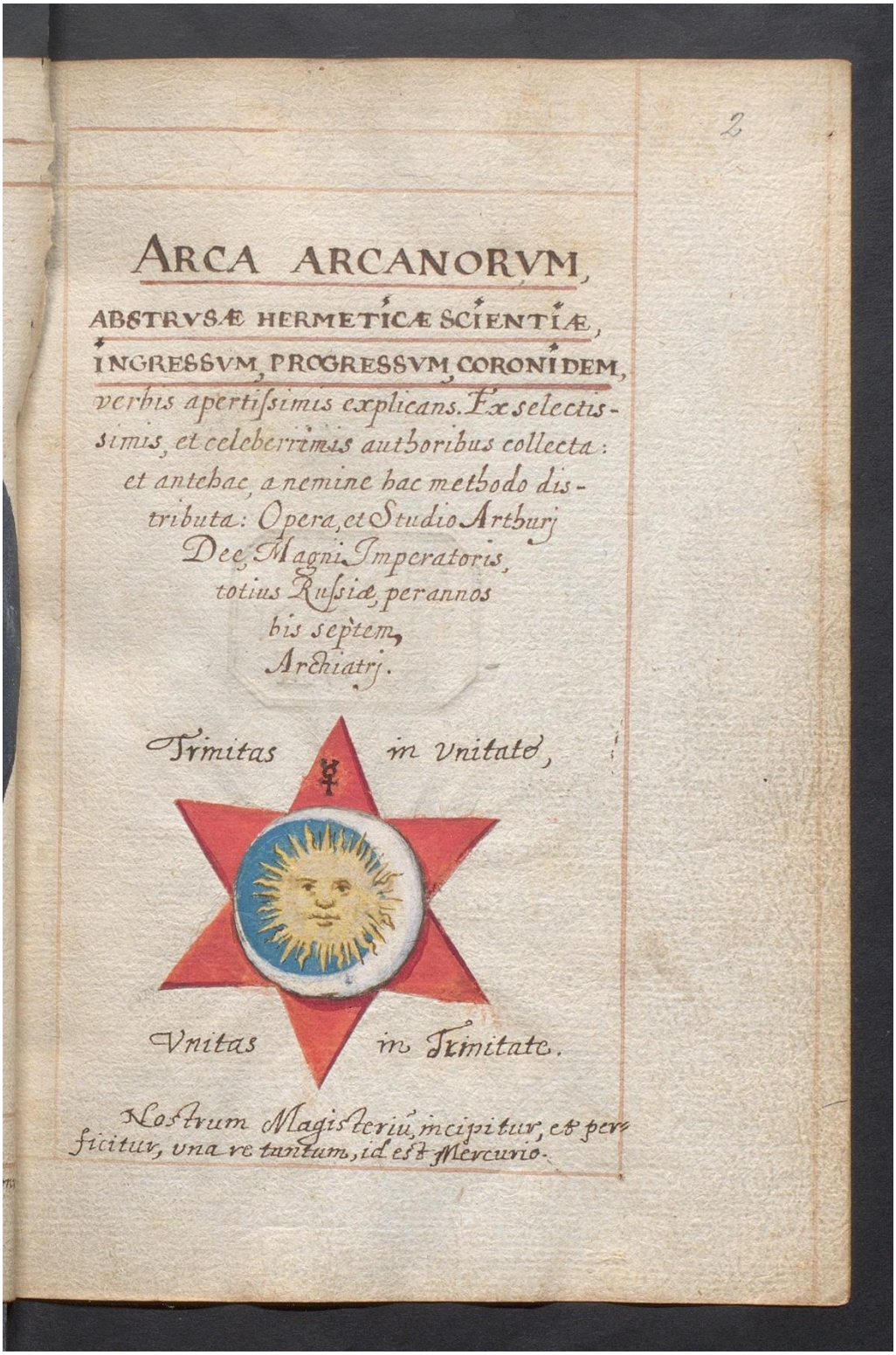


Figure 8 Engraved Title Page, Beinecke Library



ARCA ARCANORVM,

ABSTRVSÆ HERMETICÆ SCIENTIÆ,

INGRESSVM, PROGRESSVM CORONIDEM,

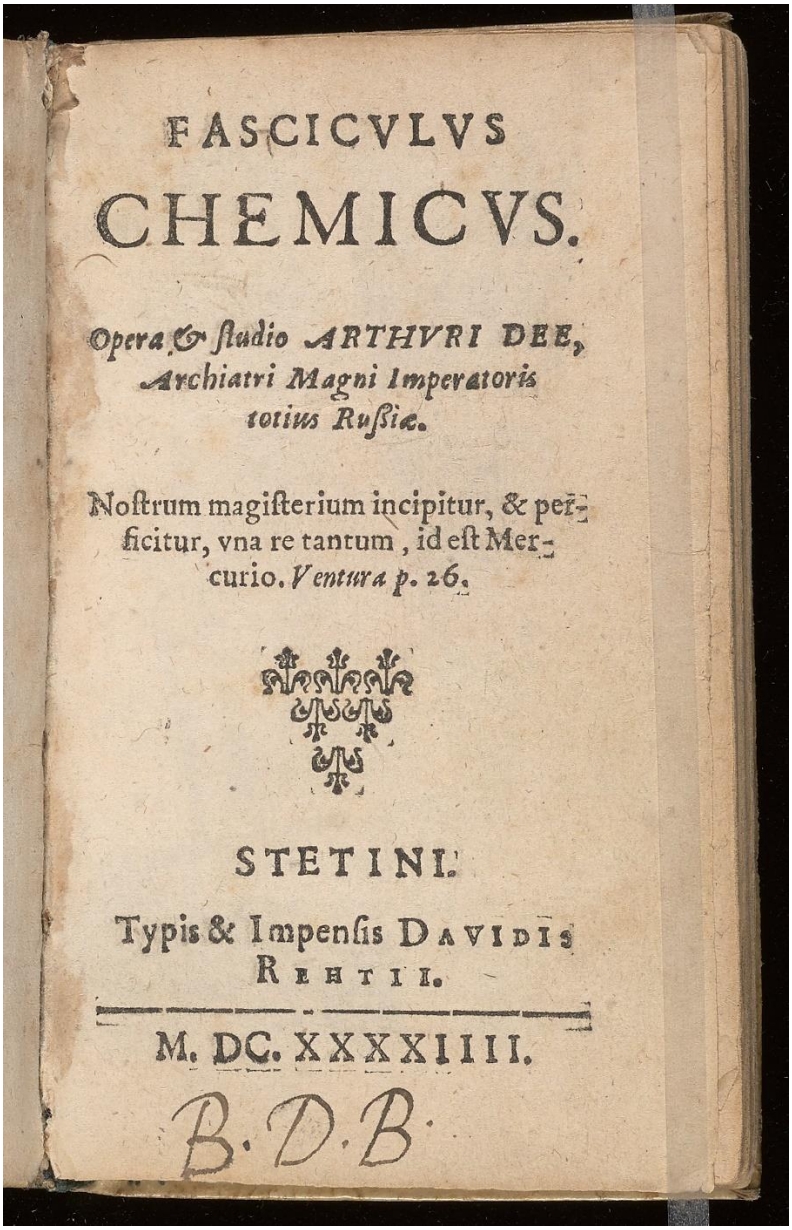
verbis apertissimis explicans. Ex selectissimis, et celeberrimis authoribus collecta: et antehac, a nemine hac methodo distributa: Opera, et Studio Arthurj Dee, Magni Imperatoris, totius Russiæ, per annos bis septem, Archiatrj.

Trinitas in Vnitate,

Vnitas in Trinitate.

Nostrum Magisteriú, incipitur, et perficitur, una re tantum, id est Mercurio.

Figure 9 Arca Arcanorum Title Page, British Library



FASCICVLVS

CHEMICVS.

Opera & ſtudio ARTHVRI DEE,
Archiatri Magni Imperatoris
totius Ruſſiæ.

Noſtrum magiſterium incipitur, & perficitur, vna re tantum, id eſt Mercurio. *Ventura p.* 26.

STETINI.

Typis & Impenſis DAVIDIS RHETII.

M. DC. XXXXIIII.

B.D.B.

Figure 10 Stettin Title Page, Beinecke Library

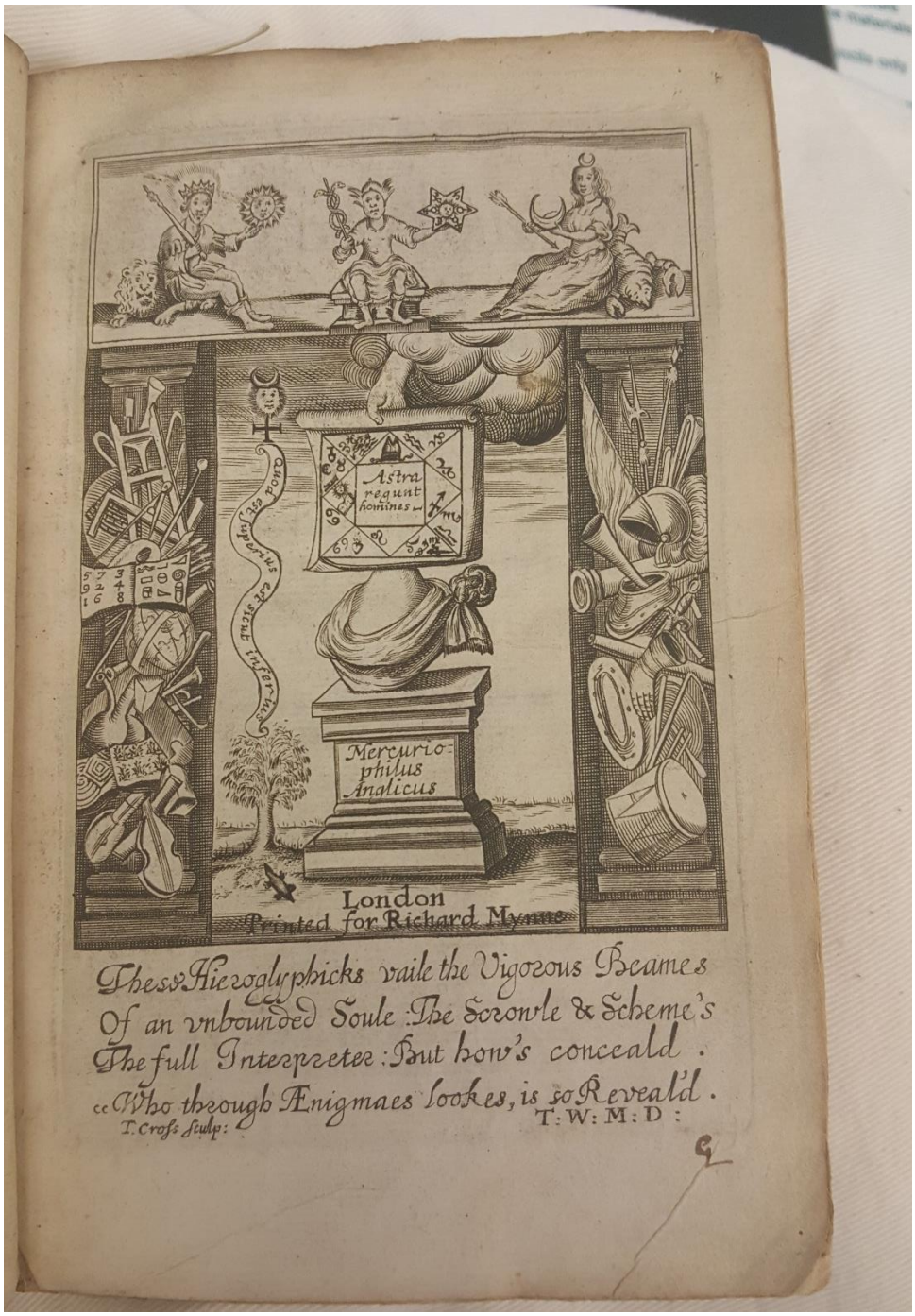
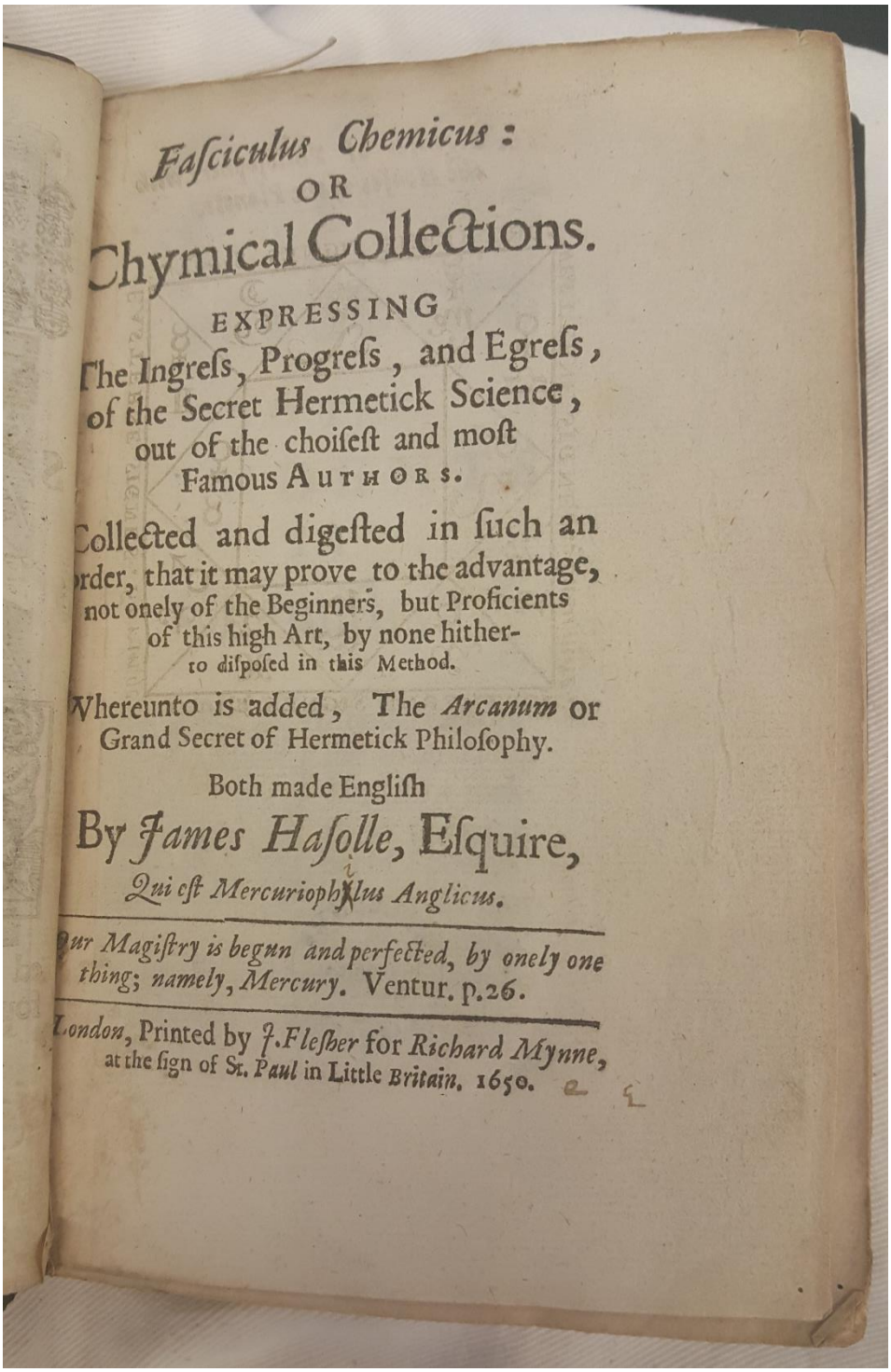


Figure 11 English Edition Frontispiece, Wellcome Library



Fasciculus Chemicus:

OR

Chymical Collections.

EXPRESSING

The Ingress, Progress, and Egress, of the Secret Hermetick Science, out of the choisest and most Famous AUTHORS.

Collected and digested in such an order, that it may prove to the advantage, not onely of the Beginners, but Proficients of this high Art, by none hitherto disposed in this Method.

Whereunto is added, The *Arcanum* or Grand Secret of Hermetick Philosophy.

Both made English

By *James Hasolle*, Esquire,

Qui est Mercuriophilus Anglicus.

Our Magistry is begun and perfected, by onely one thing; namely, Mercury. Ventur. p.26.

London, Printed by *J. Flesher* for *Richard Mynne*, at the sign of St. *Paul* in Little *Britain*. 1650.

Figure 12 English Edition Title Page, Wellcome Library

3 *ARCA ARCANORUM* & ALCHEMICAL SCRIBAL CULTURE

The previous chapter challenged the concept of 'fixity of print' through the case-study of the hand-press copies of *Fasciculus Chemicus*. When considering this text, it becomes clear that copies of hand-press texts are as individually disparate as manuscripts. While it is possible to differentiate between the technologies of hand-press printing and scribal copying, both means of producing texts are done by hand, and thus by individuals to create unique copies. Further, there is no singular reception of a printed text. There are multiple print cultures, and along with scribal cultures, these must be analyzed in their respective cultural spaces.[178]

This chapter addresses the aspects of seventeenth-century scribal culture that uniquely serve alchemical manuscripts, and the ways in which seventeenth-century alchemical compendia represent a broader trend in borrowing between manuscript and print cultures. As seventeenth-century alchemical texts cycle between manuscript and print, they simultaneously merge aspects of production, use, and reuse from both media, thus blurring the boundaries between print and scribal culture that have been overly emphasized by historians of the book. Additionally, this movement through media resulted in the creation of new alchemical knowledge, as the producers of these texts physically manipulated, altered, and otherwise mediated the original tracts. Alchemical manuscripts frequently served to supplement printed books in personal collections. However, the process of copying a manuscript created new knowledge each time a text was recycled.[179]

[178] Johns, *The Nature of the Book*, 20.
[179] Rampling, *The Experimental Fire*, Chapter 6.

Chapter two examined the uniqueness of hand-press copies of *Fasciculus Chemicus*, and here the manuscript copies of Arthur Dee's *Fasciculus Chemicus* will be analyzed for their variety and materiality. Scribal copies of the printed *Fasciculus Chemicus* support the argument that manuscripts continued to be produced and circulated well into the seventeenth century, rather than imagining a print revolution that eradicated scribal practice.[180] However, if both scribal and hand-press texts share the feature of being hand-made, and thus individual, the previously delineated lines between scribal and print culture in the seventeenth century are much more blurry. This chapter will argue for a mutually influential relationship between seventeenth-century scribal and print cultures where texts frequently vacillate between the two textual mediums. This is especially prevalent in alchemical texts or other types of secret knowledge, resulting in an overlap of material use and reuse practices in both manuscript and hand-press texts.

Brian Richardson published two complimentary books that heavily influenced the field of book history, *Print Culture in Renaissance Italy* (1994) and *Manuscript Culture in Renaissance Italy* (2009). The titles and content of Richardson's books create a dichotomy between the two early modern book cultures, which are far from distinct. Richardson famously argues that scribal culture persisted in Renaissance Italy alongside print culture.[181] At a time when it was widely accepted that the advent of the printing press subsumed scribal culture, this was a revolutionary assertion.[182] However, this claim that scribal culture continued to exist and thrive alongside the hand-press needs to be pushed further. The reason that it survived was not just to serve a niche audience or perform a special function, as it has already been illustrated that hand-press texts

[180] Slights, *Managing Readers*, 7.
[181] Richardson, *Manuscript Culture in Renaissance Italy*, 1.
[182] See Elizabeth Eisenstein's *Printing Press as an Agent of Change* (1980).

could also accomplish this through dedications, special issues, etc., but it evolved to supplement and influence print culture well into the seventeenth century. The scope of Richardson's texts is the period of the advent of the printing press (fifteenth and sixteenth centuries), and this chapter will concentrate how manuscript production and use changed with the prevalence of hand-press texts into the seventeenth century. During this period when print was widely available readers were familiar with the benefits of print, yet they still produced (and in many instances preferred) manuscripts and borrowed from the established print cannon to produce them.

The aspects of what historians have termed "print culture" and "scribal culture" were created to serve these two media, but over time early modern producers of texts appropriated these cultures to best serve whichever textual media they were producing, borrowing and overlapping in nuanced ways that have yet to be fully fleshed out. This chapter attempts to explore the recycling of print and manuscript from the scope of seventeenth-century alchemical compendia, using the hand-press text *Fasciculus Chemicus* (1631) and the subsequent manuscript *Arca Arcanorum* (1634) as a case-study from which to examine alchemical manuscripts moving through textual media more broadly. This is a particularly fruitful entryway into an investigation of the overlap of scribal and print cultures due to the abundance of alchemical print and manuscript during this period, especially in England. During the 1650s the number of English alchemical hand-press texts increased tenfold, and the number grows when manuscripts are included. Countless manuscripts continued to be copied from both printed text and other manuscripts during this period.[183]

[183] Rampling, *The Experimental Fire*, forthcoming book, Chapter 9.

From the seventeenth century through the end of the hand-press period, there is evidence of manuscripts adopting elements of print culture, whereas previously print culture relied heavily on scribal culture. When hand-press technology was relatively young, printed text imitated manuscript in its visual organization of knowledge, as there was no other reference point for how a text should communicate information and readers needed familiar visual cues for how to read and interpret a text. Sixteenth-century readers of early printed texts used material prompts to imagine the familiar practice of reading a manuscript codex.[184] However, print culture evolved over the two-hundred years between the advent of the Gutenberg press and the production of seventeenth-century alchemical texts such as Arthur Dee's *Fasciculus Chemicus* and Elias Ashmole's *Theatrum Chemicum Britannicum* (1652). The hand-press soon established its own culture such as creating a canon for the layout of a title page and organizational structures such as tables of contents and indices. Once sixteenth-century print created a cohesive culture, seventeenth-century print could reflect print phenomena, rather than manuscript.

Often, the producers of alchemical manuscripts were not professional scribes but practitioners and adepts. Alchemical knowledge is inherently hermetic, so alchemical manuscripts were almost exclusively created for personal use or to share with a special small circle of trusted colleagues. Alchemical texts were a thriving part of manuscript culture at their inception, due to the secretive nature of hermetic knowledge, and this alchemical tradition persisted alongside and intersected with alchemy's involvement in the hand-press print revolution.[185] This chapter will outline the print revolution's subsequent material effect on alchemical manuscripts during the seventeenth century.

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[184] Slights, *Managing Readers*, 7.
[185] Clucas, "John Dee, Alchemy, and Print Culture," 107.

Not only were alchemical knowledge, visual curation, and readership cues cycled between manuscript and print, but there is also material evidence of reuse and recycling between these two textual media during the seventeenth century. Scraps of manuscript that were no longer in use for a variety of reasons are frequently reused as flyleaves and pastedowns in hand-press printed books. The reverse is also true during the seventeenth century. As printed texts became abundant there is evidence of material reuse of printed paper in a variety of forms in manuscript production, further blurring the lines between scribal and print cultures during the later hand-press period. This is a function of the availability of waste material and shows that by the seventeenth century there was an abundance of printed text.

The seventeenth-century production processes for manuscript and hand-press texts were different. Standards for copying a text were established with manuscript, and the hand-press put practical constraints on producing a text.[186] Therefore manuscript reproductions of printed texts not only copy the text, but also change it, making every act of reproduction a transformation. Books are vessels of knowledge, and thus the shifting of a text to a new vessel alters the knowledge that it conveys to the reader in intentional and unintentional ways. Copying and reproduction are forms of knowledge making and changing. Every time an alchemical text is copied it is further removed from the original source of hermetic knowledge. As alchemists worked to replicate the process of purification to achieve an original perfection, a copy had to utilize its source to create something new in order to be more than a vulgar imitation.[187] Thus, in many cases it was required that a copy be more than a replica, surpassing the original text in

[186] Richardson, *Print Culture in Renaissance Italy*, 19.
[187] Fransen and Reinhart, "The Practice of Copying," 212.

adeptness and accuracy. In addition to the alterations and enhancement of a manuscript copy, readers also played an integral role in manipulating the words on the page.[188]

This chapter will attempt to put the scribal copies of *Fasciculus Chemicus* in the broader context of alchemical scribal culture. It will begin by addressing whether there is a specifically alchemical manuscript culture, and subsequently ask what differentiates it from other scribal cultures. To accomplish this, the specific processes employed by scribes of alchemical manuscripts and the unique hermetic scribal technologies utilized by them will be examined. This will also illustrate the cyclical nature of manuscript and print from the seventeenth century onward, especially considering hermetic texts that simultaneously share and hide secret knowledge. Finally, this chapter will argue that the catalyst for Arthur Dee's original manuscript, *Arca Arcanorum*, was his achieving the Philosophers' Stone and explore the similarities and differences between his manuscript and printed text, *Fasciculus Chemicus*, as well as other seventeenth-century manuscript copies of *Fasciculus Chemicus*.

Seventeenth-century Alchemical Scribal Culture

One of the reasons that a seventeenth-century practitioner might have decided to copy an alchemical manuscript, or copy a printed alchemical text into a manuscript, is to (re)interpret the text for accuracy. Copying is a form of knowledge-making, particularly with alchemical texts, which necessitate comparison and cross-referencing to de-code hermetic information.[189] Further, it is easy to accept that all manuscript copies of a text are unique, as the way that scribal materials are produced today is not as far removed from the early modern process as hand-press printing is from today's machine press. It might be more revolutionary to assert, as was done in

[188] Sherman, *John Dee*, 53.
[189] This aspect of alchemical knowledge-making is more thoroughly addressed in Chapter 4.

the previous chapter, that hand-press copies are unique both due to errors and intentional publication deviations. However, it is equally historically fruitful to search for evidence of knowledge-making in manuscript production, especially in this specific context of a scribal text produced from a printed alchemical book based on manuscript sources. Additionally, a material culture analysis of alchemical texts connects the head of alchemical theory and the hand of textual production.[190] The material reuse of hand-press texts in alchemical manuscripts in conjunction with the resulting knowledge-production illuminates the physical and theoretical manipulation of alchemical knowledge.

In his book, *The Politics of Reading and Writing in the English Renaissance*, William Sherman examines the collecting and copying practices of alchemist and polymath John Dee, Arthur's father. There is evidence of John Dee employing alchemical scribal practices such as emending the text of his manuscript copies through cross-referencing a more complete copy by filling in missing passages, showing the desire of alchemists to have available to them the most complete copy of a work. This is particular to alchemical scribal culture because of the hermetic nature of its textual tradition, requiring collectors to go to great lengths in an effort to have the most comprehensive library.[191] John Dee also employed scribal reading practices with his alchemical print texts, and vice-versa, exemplifying the lack of distinction between the two media. He frequently used line graphs (or 'connection lines') to illustrate related ideas in printed texts, a practice first utilized in scribal culture. Sherman argues that this is "a textual manifestation of the alchemical belief in the interconnectedness of all matter", [192] and thus specific to alchemical scribal culture and extended to Dee's hand-press reading practices. John

[190] Smith, *Ways of Making and Knowing*, 6.
[191] Sherman, *John Dee*, 86-87.
[192] Sherman, *John Dee*, 88.

Dee, like his alchemical contemporaries, was emphatically not a passive reader as is illustrated by his reinterpretation and production of alchemical manuscripts.[193] Alchemical readers actively reorganized and recycled print culture to create new knowledge through alchemical manuscript production in the seventeenth century.

Wellcome MS 3563

This Wellcome manuscript is fascinating because it exemplifies the myriad ways in which alchemical manuscripts copied the esoteric and experimental concepts in alchemical hand-press texts while simultaneously manipulating the materiality of the book, resulting in the recycling and reinterpretation of knowledge. The provenance of this 649-page manuscript is unknown, but there is some information available. A note in pencil on an exlibris belonging to Edmund Strudwick (c. 1770) pasted down to the endpapers under the Wellcome's exlibris describes this manuscript as "Dated about 1600 & supposed to be a manuscript by George Riply". However, most of the tracts contained in this manuscript are copied from Elias Ashmole's *Theatrum Chemicum Britannicum* (1652). While we know it must have been created after the publication date of the hand-press text on which it was based, and George Riply is indeed included in the collection of alchemical poems that make up *Theatrum Chemicum Britannicum*, the aforementioned note contradicts a later date written in a more modern hand on the flyleaf of 1746, which is the date that the Wellcome catalog attributes this manuscript.[194] There are additional notes on the front flyleaves that describe the text as "hermetic", "alchemical", and "hieroglyphical" and detail the alchemical processes addressed in the text.

[193] Sherman, *John Dee*, 60.
[194] I find this date to be rather late and believe this manuscript to be more contemporaneous with the text it is modeled after (*Theatrum Chemicum Britannicum*, 1652).

A quick comparison of the tables of contents shows that, while including a number of the same tracts, this manuscript deviates from the order and contents of *Theatrum Chemicum Britannicum* and includes excerpts and cut and pasted images from additional alchemical compendia such as the continental *Theatrum Chemicum* (1602-1661). The manuscript reused material components to reinterpret tracts included in these texts in interesting ways that subvert their original meaning in the hand-press books. One of the first repurposed images in this manuscript is from the fifth volume of *Theatrum Chemicum* as is described with the page number above the image. The producer of this manuscript clearly and purposefully cites the source of the reused hand-press material. This version of the woodcut included in the manuscript is not from the original edition of the hand-press text, but a very similar image appears on that page under the heading of "Senioris Antiquissimi", while the heading in the manuscript is "Senioris Tabula".

There is a powerful reinterpretation of a woodcut from *Theatrum Chemicum Britannicum* pasted into this manuscript. In this very curious example, the creator of this text has clipped Vaughn's engraving, located across from page 211 in the printed text, removed the Godhead above the spherical realm of earth, and subverted the image and its meaning by pasting it upside-down in the manuscript (Figure 13). The resulting image is not the Christ as *salvator mundi* iconography that is depicted in the original printed image from *Theatrum Chemicum Britannicum*, but a hell scene with demons rising from an inferno carrying alchemical vessels. Above this entirely new visual presentation of alchemy and microcosms, the author has written "The wrong side stands upwards." to make clear beyond doubt that this cropping and reorientation of the image was intentional. Along with many other cropped and pasted images from *Theatrum Chemicum Britannicum* and *Theatrum Chemicum*, these recycled, reinterpreted,

and recontextualized images show that the producer of the manuscript had access to copies of the printed texts in order to physically reused the hand-press material, preferring to have the images from the texts accompany the manuscript copy. In this way, the creator is manipulating old alchemical knowledge to present a much different interpretation and reconceptualization to the reader.

In addition to physical reuse of printed texts, this manuscript employs organizational and compositional techniques that are both unique to manuscript culture and alchemical knowledge. It not only reuses printed material, but manuscript pages as well. Immediately following the table of contents for this manuscript, is an alphabetical tabulated index. This index is in a hand entirely different from the rest of the manuscript, and there is evidence of cropping at the top of the pages (Figure 14). The Wellcome catalog entry for this manuscript describes the index as being written in shorthand. However, upon closer examination it becomes clear that it is actually written in a cipher code that includes alchemical symbols and partial words of alchemical terminology. Parts of the body of this manuscript use the same cipher code written in the same scribal hand.

This fascinating manuscript exemplifies the variety of ways in which material and conceptual alchemical knowledge were cycled between manuscript and print after the establishment of the printing press. The scribal medium lends itself to more creative and individualized presentations of alchemical knowledge, including the opportunity to use ciphers and symbols that would not be typographically possible with the hand-press. Wellcome MS 3563 disguises alchemical knowledge from the casual reader, and thus is written for a specific audience, possibly a very small group of adepts or even the singular producer of the text. Many aspects of this manuscript are unique to alchemical knowledge-making, and thus support the idea

that there is a specific alchemical manuscript culture during the seventeenth century that was only possible with the popularization of hand-press texts.

This manuscript, based largely on Elias Ashmole's *Theatrum Chemicum Britannicum*, illustrates the phenomenon of alchemical scribal culture based on hand-press texts. This alchemical manuscript, which is a material chimera of manipulated print and scribal information, problematizes a bias rampant in history of science of prioritizing empirical over practical knowledge.[195] In alchemical manuscript production, these two aspects of knowledge-making are inextricable. The physical composition of these scribal texts manipulates the hand-press alchemical books they are based upon, resulting in the creation of new alchemical knowledge and directly affecting the reception of the alchemical ideas that it presents. The history of science is both an intellectual and material culture story, as scientific objects (including texts) were made to understand the natural world.[196]

The original publisher of *Theatrum Chemicum Britannicum,* Elias Ashmole, applied similar alchemical scribal techniques to his own hand-press copy of the text. After its printed publication, Ashmole continued to annotate and revise his personal copy of the text. Ashmole's English alchemical compendium exemplifies seventeenth-century scribal culture being transferred to print. However, the act of collecting and copying canonical English alchemical tracts did more than preserve them in a hand-press media. In producing *Theatrum Chemicum Britannicum,* Ashmole codified a lineage of copied tracts which were not exact replicas, resulting in what Jennifer Rampling terms "a kind of generational 'nesting' effect" in which the

[195] Smith, *Ways of Making and Knowing*, 3.
[196] Smith, *Ways of Making and Knowing*, 12.

new knowledge created from each iteration of the tract was included in the next.[197] Producers and subsequent owners of alchemical texts (in this example, Ashmole is both) improve upon and alter the information on the page. *Theatrum Chemicum Britannicum* illustrates the ways in which both hand-press and manuscript media continued to be edited by readers and producers.

Penn MS 120

Another means by which copyists replicated print culture in seventeenth-century alchemical manuscripts was facsimile reproduction of printed pages. An example from the Kislak Center at University of Pennsylvania is a manuscript copy of *Theodori Kerckringii doctoris medici Commentarius in Currum triumphalem antimonii Basilii Valentini*, which features two aspects of scribal copying: hand copies of engraved plates and scribal replication of entire printed pages, including type. In extant examples it is more typical to see engravings copied in the other direction, from manuscript to print, as in Arthur Dee's engraved title page of *Fasciculus Chemicus* which was likely modeled after the manuscript that Dee gave to the print house. The fact that both hand-press technology was modeling scribal techniques and vice-versa shows the cross-referential nature of manuscript and print cultures within alchemical texts during the seventeenth century. Manuscripts were reproduced as hand-press texts simultaneous to print being scribally copied into manuscript, as a reaction to a general thirst for alchemical knowledge. This manuscript (Penn MS 120) is part of the Smith collection, which includes many rare and interesting seventeenth-century alchemical texts and most helpfully, the print edition from which this manuscript is copied.

[197] Rampling, *The Experimental Fire*, Chapter 9.

The first page of the manuscript is an image of the triumphal chariot of antimony, the allegory that is the subject of this text. This hand-drawn image is almost identical to the frontispiece found in other copies of this text (Figure 15). A couple of noteworthy anomalies in the hand-drawn image including an additional rose in Cupid's hand and the names of the figures written in a lighter short-hand, some of which make it into the printed engraving. Additionally, a handwritten signature of "Romyn de Houghe, fecit 1671" appearing in both the printed and hand-drawn frontispiece indicate that this might be the artist's preliminary drawing that the etching was modeled after, rather than a later copy of a printed etching. The text in the image is written to imitate type and is especially evident in the substitution of "v" for the letter "u", which was a strategy used by printers to conserve "u" pieces of type. The creator goes to extreme lengths to replicate an etching technique in the images, using 'hatching' to shade the images throughout the manuscript, which is how an engraving is created but is not necessary for the medium of pen and ink.

The following page is the title page and is an extremely well-done facsimile of the printed title page of the 1671 edition of the text (Figures 16 and 17). The light ink wash which is the background for the image gives the illusion that an engraved image was cut and pasted from the printed text, as well as the cross hatching technique in the image and the text being made to look like typeface, rather than the scribal handwriting that makes up the body of the text on the subsequent pages. However, a closer examination of a facsimile image from the manuscript and the engraving from the printed text shows that the manuscript is a hand copied reproduction. Although the body of the text is scribally written, hand-drawn images of alchemical apparatus made to look identical to the etchings found in the printed edition are inserted throughout the text. This example of alchemical manuscript replication of a hand-press text shows the producer

drawing from more than one edition of the text, possibly even including material from a preliminary manuscript, and selecting the most important images and passages to create a version that they believe contains the most pertinent alchemical knowledge.

MS Sloane 1881, MS Ashmole 1507

The following two examples are of alchemical scribal copies of manuscripts and show the differing ways in which aspects of textual culture that originated with the hand-press were appropriated for manuscript production, even with texts that never appear in print. Additionally, both texts have evidence of influence from hand-press production independent of the literary content of the manuscripts. These examples of alchemical manuscript culture show how the authors, Arthur Dee and Elias Ashmole, intended for these copies to be shared by utilizing aspects of print culture, such as addressing a reader or intended audience both explicitly and implicitly.

The British Library holds a manuscript copy of *The Golden Rotacion, Conversion, Circulation, Purification, Concatenation, of the Elements.* copied by Arthur Dee. This manuscript contains an address written by Dee "To the Reader" on the verso of the title page. Clearly this alchemical manuscript was meant to be circulated beyond Dee's immediate circle, especially considering that the content of the address is extremely vague and not a personal dedication of any sort. These types of broad epistles would have been an obligatory and necessary aspect of seventeenth-century print culture for hand-press texts which reached a large audience. However, it is out of place in a manuscript that was created for personal use or to share with a limited audience of Dee's choosing. This manuscript did move after Dee's death, as it is

listed in the letter from Dee to Sir Thomas Browne bequeathing him manuscripts and is corroborated by the provenance information in the British Library's catalog.[198]

On the page adjacent to the dedication to the reader is a partial ghost imprint of the first word of the title of Arthur Dee's hand-press text, *Fasciculus Chemicus*. This is extremely curious for a number of reasons. The text on this page is written to imitate type and looks very much like the printed title page of *Fasciculus Chemicus*. Dee's hand-press text was printed in 1631 and the manuscript version that Dee must have presented to be printed very likely does not exist today.[199] This manuscript (MS Sloane 1881) is undated, but all other extant copies of alchemical texts copied by Dee were executed in the early stages of his career. Conversely, *Fasciculus Chemicus* was printed well into his time in Russia and thus towards the end of his alchemical endeavors. Based on this information, it can be suggested that this was an early attempt by Dee to write the manuscript for his hand-press book. Another explanation could be that a later owner started to write the title of *Fasciculus Chemicus* in a manner that imitates type, but the provenance of this manuscript is extremely well documented, and the previous owners did not alter their collections in this way in any other case.

Another example of hand-press techniques applied to scribal textual production is Elias Ashmole's manuscript collection of alchemical tracts (MS Ashmole 1507). The first and most obvious borrowing from print culture is a literal printed engraving of a bust of Elias Ashmole included in the prefatory material. This self-promotional engraving can also be found in some copies of his hand-press alchemical poetry collection, *Theatrum Chemicum Britannicum* (1652). This indicates that Ashmole owned the plate and it was a personal decision in which texts to

[198] Keynes, *The Works of Sir Thomas Browne*, 4:294.
[199] See Chapter 2.

include his image. One of the alchemical tracts included in Ashmole's manuscript is *Benjamin Lock, his Picklock to Riply, his Castle.* Ashmole copied this from Arthur Dee's copy of this text (Wellcome MS 436), which he got from Thomas Harriot, illustrating the dynamic nature of sharing knowledge within alchemical manuscript culture. Ashmole copied and included Arthur Dee's dedication to the reader including Dee's signature at the end and added his own coded shorthand in the bottom left corner. At the end of this tract, Ashmole copied the provenance information from Dee's original manuscript and included his own acquisition of Dee's manuscript from Sir Thomas Browne. This is a means to authenticate the text and derive alchemical authority through textual linage.

Arca Arcanorum: Arthur Dee's alchemical opus

Alchemical texts necessitated references to renowned and reliable authors in order to affirm the validity of the author's own assertions. Alchemical truth could only be divined by an adept who correctly utilized and organized canonical authorities.[200] Arthur Dee's two original texts, his hand-press *Fasciculus Chemicus* and his scribal *Arca Arcanorum* are essentially his expertly curated collection of alchemical tracts. While these two texts are very similar in content, there are some important deviations between them. *Fasciculus Chemicus* is made up of ten chapters that together, are the successive order of operations to create the philosophers' stone. Each chapter ends with a "corollarium" and the entire text ends with 21 "observanda". *Arca Arcanorum* includes four new canonical names (Agrippa, Aquinas, Dionisius Zachar, and Kahlid) as well as additional material from authors featured in *Fasciculus Chemicus* of Flamel and Dunstan.[201] Dee is explicit in his prefatory material that *Arca Arcanorum* is the celebration

[201] Abraham, *Fasciculus Chemicus*, xxxvii.

of his successful achievement of the Philosophers' Stone, "I have at last (by divine help) solved the riddles of knowledge. An example of this, in this climax of my life, with some select manuscripts I dedicate (under your auspices) to devotees of alchemy."[202] Thus, the ten additional 'observanda' included in this manuscript must have been instrumental to his success, and supplemental to the processes outlined in *Fasciculus Chemicus*.

Arthur Dee's alchemical manuscript, *Arca Arcanorum*, performs alchemical scribal culture in a number of ways. There are examples of scribal copying from other manuscripts, such as the St. Dunstan tract included at the end of the codex and the image from the Ripley Scroll adjacent to the title page, as well as intentional obfuscation of knowledge with the chosen manuscript medium, as is indicated by the Latin title which translates as *Secret of Secrets*.[203] These texts are among those given by Dee to Sir Thomas Browne towards the end of his life and supposedly belonged to his father's famous library. It is clear that these tracts greatly influenced *Arca Arcanorum*, which makes sense given that Dee claims to have witnessed his father's successful alchemical transmutation as a child in a letter to his friend Browne.[204]

The first page of the text after the empty flyleaves is a colorful hand-painted reproduction of an emblem from the Ripley Scroll (Figure 18). All of the twenty-one extant scrolls are copies of a lost original associated with medieval English alchemical author George Ripley (although the original scroll was likely not actually authored by Ripley) and are comprised of poems and emblems celebrating the alchemical 'elixir of life' which is also known as the Philosophers'

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[202] Dee, *Arca Arcanorum*, preface. Translated by Appleby, "Arthur Dee and Johannes Banfi Hunyades," 101.
[203] This title is likely a nod to a pseudo-Aristotelian text (probably 10th c. Arabic) titled *Secreta Secretorum*, which Dee references throughout the text.
[204] "[I had] ocularly, undeceavably and frequently seen projection made in Bohemia." (Keynes, *The Works of Sir Thomas Browne*, 1:463.)

Stone.[205] Ripley's story mirror's Dee's own alchemical quest. The scrolls relay the relationship between knowledge and travel. In his story, Ripley leaves England on a quest for alchemical enlightenment, and finds it among continental Europe.[206] In Dee's case this was Hungary where he acquired antimony. The theme of the Ripley Scrolls and the emblem's inclusion as the frontispiece to his manuscript support the assertion that *Arca Arcanorum,* created after the publication of *Fasciculus Chemicus,* was an addended version of his hand-press text with the addition of Dee's new knowledge of the ultimate alchemical achievement.

A few aspects of the emblematic frontispiece indicate that it was hand-painted by Arthur Dee himself: Arthur Dee once owned a Ripley Scroll and would have had it available to reference, the stylistic aspects of the faces of Adam and Eve reflect the face in the sun on the title page of his manuscript, and the additions of "Materia, Prima, Mineralis, Animalis, Vegetabilis" followed by a quote from Petrus Bonus. In this way, Arthur Dee was putting his own personal significance onto the image. He did not simply copy it from the Ripley Scroll, but reinterpreted it to demonstrate his own success. The emblem contains imagery of the pre-fall perfection of Eden, where the *prima materia* that alchemists sought was abundant. Adam and Eve are connected to their hermetic designations of feminine Luna and masculine Sol. Flora and fauna representing esoteric alchemical processes are represented, and an angel and a man in contemporary seventeenth-century dress mine for precious metals and minerals.

Adjacent to the hand-painted frontispiece is the title page, written in Dee's own hand. It is extremely similar to the engraved title page included in a few presentation copies of his hand-press text, again, performing the cycle between manuscript and print. The top of the title page

[205] Timmermann, "The Ripley Scrolls," 113.
[206] Rampling, "Transmission and Transmutation," 483.

describes the manuscript in very similar terms as the title of *Fasciculus Chemicus*, including the same quote at the bottom of the page. The major deviations between the print and manuscript title pages are the variant titles, and the inclusion of Dee's personal monas, clearly influenced by his father's famous monas. Arthur's own self-representative alchemical symbol is made up of a sun inside the moon inside of a six pointed star (which symbolizes the union of opposites—in this case Luna and Sol) and is surrounded by the mantra, Trinity in Unity//Unity in Trinity.[207]

Some of the additional authors and tracts included in *Arca Arcanorum* hold special significance for Dee in his alchemical quest. One such author is Johannes Carazius, known by many names but best by his Latin pseudonym Dionysus Zacharius, shortened to Zacaire in French circles, and Zachar in English. This alchemical author also appears in the medical notebook produced by John and Arthur Dee (Sloane 1902), which included an excerpt by Zacharius on "de projectione sup. Metalla". Clearly Arthur connected Zacharius with successful alchemical processes specific to experimentation and physical execution, as these aspects of alchemy are celebrated in his two manuscripts, rather than the more theoretical collection of canonical authors that are featured in *Fasciculus Chemicus*.

Arthur Dee included another special author in more than one of his texts. He mentions St. Dunstan multiple times in *Fasciculus Chemicus,* and most noteworthy, *Tractatus Maximi Domini Dunstani, Episcopi Cantauriensis, veri, philosophi, de Lapide phor.*, is bound together with Arthur Dee's *Arca Arcanorum*. At the end of his life Dee bequeathed a number of alchemical manuscripts that are in the Sloane collection at the British Library today to his friend Sir Thomas Browne. A text that must be *Tractatus Maximi Domini Dunstani* was described in the list as

[207] This is a reference to the three alchemical primes: Mercury, Salt, and Sulfur, of which all material substances are composed according to the alchemical worldview.

"Dunstanus Episcopus Cantuariensis de lapide philos., a small manuscript", while *Arca Arcanorum* was gifted to the Bodleian.[208] Thus, these two texts were bound together after Dee's life. However, they are both scribed in his hand and it makes theoretical sense to bind them together based on the importance of the tract to Dee's *Arca Arcanorum*.

Regardless of whether Dee intended to include St. Dunstan in his *Arca Arcanorum*, it was an integral aspect to building his alchemical worldview, starting from his first encounter with alchemy as a child when he witnessed his father and Edward Kelley execute successful alchemical transmutation in Prague. In the preface of *Arca Arcanorum* he references this, "when in my youth for seven years I had been an eye-witness of the truth itself."[209] Kelley believed that the secret recipe for the philosophers' stone was found in St. Dunstan's tomb. However, the text he was referring to was recorded in Welsh. According to a Hungarian alchemist and Kelley's contemporary, he saved the recipe, and Kelley subsequently shared it with Rudolf resulting in its transcription by his courtly scribes in Prague on 17 July 1604. [210] Arthur Dee may have drawn a correlation between St. Dunstan and successful alchemical transmutation from an early age while working with his father and Kelley in Rudolf's court as a child.

A final significant difference between the printed *Fasciculus Chemicus* and the scribal *Arca Arcanorum* is what appears to be ten additional *Observanda* followed by an original conclusion in the manuscript. However, it is not as simplistic as Dee just adding to his previous twenty-one observations from his printed text. Some of the thirty-one scribal observations are new, but there are also some observations in *Fasciculus Chemicus* that have been omitted in

[208] Keynes, *The Works of Sir Thomas Browne*, 4:294.
[209] Appleby, "Arthur Dee and Johannes Banfi Hunyades," 101
[210] Schultheisz and Tardy, "The Contacts of the Two Dees," 101.

Arca Arcanorum.[211] In summation, Arthur Dee added fourteen new observations to his manuscript, and removed ten from those included in his hand-press text.

Coinciding with the scribal production of *Arca Arcanorum* in 1634, Arthur Dee requested medical supplies from England to be delivered to him in Russia on June 1630, for which he did not receive royal approval until two years later on June of 1632.[212] Thus, Arthur obtained important practical alchemical supplies after the hand-press production of *Fasciculus Chemicus* (1631) and before the scribal production of *Arca Arcanorum* (1634). Many of the additional *Observanda* refer directly to physical elements of transmutation and when contextualized with the archival evidence from his time in Russia show that Arthur Dee was performing experiments, namely the transmutation of the *prima materia*, during a specific time in Russia (1632-1634).[213]

Arca Arcanorum perpetuates seventeenth-century cycles of hand-press and manuscript interaction. The similarity of the engraved title page found in copies of the printed *Fasciculus Chemicus* and the title page of *Arca Arcanorum,* indicates that Dee was copying *Arca Arcanorum* from a lost manuscript version of *Fasciculus Chemicus*.[214] It also shows how important the title of this tract was for Dee to signal to its intended audience as well as influence the digestion of its content. There is a clear distinction between a "bundle of the choicest flowers"[215], which refers to a curated referential tract of canonical authors and a "Secret of Secrets"[216] as Dee has titled his manuscript. Each addition to *Arca Arcanorum* represents the physical realization of the ultimate alchemical achievement by Dee, and the choice of manuscript

[211] *Observanda* 5, 8, 16, 17 from *Fasciculus Chemicus* are not included in *Arca Arcanorum. Observanda* 1, 8, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 30, 31 are additions to the manuscript.
[212] Appleby, "Dr. Arthur Dee: Merchant and Litigant," 47.
[213] See *Observanda* 22 and 23 in *Arca Arcanorum.*
[214] See Chapter 2.
[215] Dee, *Chymical Collections*, preface.
[216] Dee, *Arca Arcanorum*, preface.

media illustrates the small alchemical audience with whom Dee envisioned sharing his secret of secrets.

Scribal Copies of *Fasciculus Chemicus*

There are two extant examples of manuscripts based on the hand-press printed *Fasciculus Chemicus.* Both are held by the Wellcome Collection and have not previously been examined for their relationship to the printed text from which they are copied. These manuscripts appear to be unrelated to one another, although there are a few strange coincidences between them. MS 1177-1178 was acquired by the Wellcome in 1909 and purports to be produced in the later seventeenth century by an Italian by the name of Bisioli, while MS 259 was bought by the Wellcome in 1933 and created in the mid-seventeenth century and is attributed to Petrus Almerigus Encherchz, which may be a pseudonym. Additionally, both of these codices containing the scribal copies of *Fasciculus Chemicus* have situated this text in between other alchemical tracts copied by the same hand. The texts surrounding these scribal copies of *Fasciculus Chemicus* inform its context and reception. These two manuscripts are examples of alchemical scribal culture moving from print to manuscript and include aspects of print culture in manuscript production.

Wellcome MS 259

A manuscript composed in 1649, known as Wellcome MS 259, is described as “three complimentary alchemical treatise” by the scribe, who called themselves Petrus Almerigus Encherchz. There is no other extant evidence of this particular pseudonym being used. The entire collection is titled “De Lapide Philosophi” or “of the Philosophers’ Stone” and the first folio is a cipher made up of Greek characters. A ‘Petro Almerigo Encherchz’ is mentioned in the prefatory material, likely the Italian author. This is a very mysterious work that employs multiple hermetic

languages and ciphers, as well as hand-drawn images of experimental apparatuses within frames evocative of woodcuts. It is followed by the names of eleven members of a secret order, and carried over into folio 2 are thirteen rules. Finally, the tract concludes with an excerpt from Pantheo's *Expositio Literum Schematis* dated January 1519.

In this manuscript Arthur Dee's *Fasciculus Chemicus* is designated as the section "Praxis Compositionsis Lapidis" on making the Philosophers' Stone. The final alchemical poem in this codex was composed by a "Philosophus Aureae Crucis" likely in Italy and is possibly a reference to the Brotherhood of the Rosy Cross.[217] This final section included in the manuscript codex is comprised of three tracts that are organized with an index that appears before the tracts. Thus, a relatively well-known hand-press text, *Fasciculus Chemicus*, is anonymously recorded between two unknown alchemical tracts. This indicates that this manuscript was produced for practical use by its creator, and not for widespread sharing. The creator prioritizes the experimental and esoteric aspect of alchemy over a clear intellectual legacy.

Wellcome MS 259 was created in 1649, just one year before Elias Ashmole's English translation of the text was published. It begins with a short mention of Arthur which claims that he is John Dee's only son and that the copy of *Fasciculus Chemicus* from which it was copied was obtained from London. MS 259 was created by an Italian scribe, showing the cosmopolitan nature of *Fasciculus Chemicus* and the international desire to achieve alchemical success. The scribe has omitted all paratextual material, so while this is clearly copied from a 1631 edition copy of *Fasciculus Chemicus*, it is not possible to discern which issue.[218]

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[217] This tract is discussed by Lynn Thorndike in *History of Magic and Experimental Science*, III:182-190, 688-691 (1923). Thorndike does not come to a conclusion as to authorship.
[218] For more information on the various issues of the Latin edition of *Fasciculus Chemicus*, see Chapter 2.

Before the body of the text they added some of their own hermetic references such as the labor of Sophia, whom personifies wisdom, renamed the Dee's text *Filum Ariadneum*, or 'The Thread of Ariadne' after the mythological mistress of labyrinths.[219] The producer of MS 259 also omitted the quote at the end of the hand-press *Fasciculus Chemicus*. Otherwise, the entire text of *Fasciculus Chemicus* is copied from the hand-press book beginning with the first chapter. The alchemical scribal culture of secrecy can be seen in the further convoluted and obfuscation of hermetic knowledge presented in these tracts through mythological symbolism.

There are a few ways in which this particular manuscript incorporates the print culture from which the text is copied. The most literally material way in which this manuscript incorporates hand-press text is using discarded paper that has printed text on it as binding. This illustrates the reciprocal relationship between print and scribal culture and its specificity to this moment during the seventeenth century. The use of printed text in such a functional way, only for its material properties, could only happen after hand-press text became so prevalent that it was disposable. Another way in which print culture is incorporated into this alchemical manuscript is through the copying of decorative printers' stamps at the beginning and end of each section. These look like various stylized flowers in decorative vases reminiscent of woodcuts.

Wellcome MS 1177-1178

A second seventeenth-century manuscript in the Wellcome collection that contains *Fasciculus Chemicus* is Wellcome MS 1177-1178. These codices were created around 1685 and

[219] Elias Ashmole also mentions this myth in the postscript to his 1650 English *Chymical Collections*. "…may finde Ariadnes thred to conduct them through the delusive windings of this intricate Labyrinth." (A8v)

are a two-manuscript set attributed to ‘Bisioli’. The first book of the set contains seven separate alchemical tracts and the second one contains nine, with *Fasciculus Chemicus* being the second tract in the second volume.[220] It is noteworthy that within this manuscript Arthur Dee’s *Fasciculus Chemicus* immediately precedes St. Dunstan’s *De Lapide Philosophorum,* just as it does in Arthur Dee’s manuscript *Arca Arcanorum*. However, the body of the text is copied from a 1631 edition copy of *Fasciculus Chemicus*.

Like Wellcome MS 259, this manuscript copy of *Fasciculus Chemicus* omits all prefatory material so it is not possible to determine from which issue it was copied. Additional similarities between these two Wellcome manuscript copies of *Fasciculus Chemicus* exist, made even more striking by the fact that their acquisition and provenance have little overlap, only that they are both produced in Italy. Both contain similar descriptions of the author preceding the text with the same misinformation (that he is the only son of John Dee) and make mention of the same two myths, the thread of Ariadne and the labor of Sophia. It is clear that there is some correlation during the production stage between these two Italian copies of *Fasciculus Chemicus*.

Exactly what this connection is, that one was copied from the other, or that they both used the same hand-press copy containing marginalia that made its way into the prefatory material, is difficult to conclude. However, the lack of the printed prefatory material in both manuscript copies indicates that alchemical scribal culture and print culture have differing needs

[220]Vol. A. (1) Nuysement, *De spiritu universali secreto mundi et sale philosophorum ex libro de vero sale secreto Sendivogii. Canones a B.N.M.D. collecti* (pp. 1-91). (2) Sendivogius, *Nota ex Novo lumine [chymico]* (pp. 92-109). (3) Fabre, *Extracts from several works* (pp. 110-186). (4) Musaeum Hermeticum. *Extracts* (pp. 186-222). (5) Origanus. *De rore* (pp. 222-225). (6) Fabre, *Extracts* (pp. 226-241). (7) *Musaeum Hermeticum [etc.] Extracts* (pp. 241-end). Vol. B. (1) Nuysement, *Canones speciales ad praxin* (pp. 1-27). (2) Dee, *Fasciculus chemicus* (pp. 28-149). (3) Pseudo-Dunstan, *De lapide philosophorum* (pp. 150-179). (4) Pontanus, *Epistola de philosophorum lapide* (pp. 179-185). (5) Artephius, *De arte occulta atque lapide philosophorum* (pp. 185-246). (6) *Musaeum Hermeticum. Extracts* (pp. 249-275). (7) *Medicine spagiriche* (pp. 276-293). (8) *Musaeum Hermeticum*. “Tractatus 'Gloria mundi'” (pp. 294-349). (9) Fabre, *Extracts* (pp. 349-end). (Wellcome Catalog entry for MS 1177/78)

concerning prefatory material. While alchemical scribal culture frequently provides a brief biography of the author of the tract, by the seventeenth century, print culture had developed a relatively prescriptive prefatory norm. The exception to this being tables of contents which evolved during this period, especially in large thematic collections (this will be addressed in detail in subsequent chapters). Hand-press prefatory material was designed to signal to an intended audience and patrons as well guide the reader in using the text. That seventeenth-century alchemical scribal culture omits this aspect of print culture shows how this function does not serve the medium of manuscript, which in the case of these collections of alchemical tracts was meant for personal use or to be shared with an elite circle of practitioners.

The alchemical tradition in which Arthur Dee situated himself was first and foremost a textual tradition, such as depicted in early modern illustrations of the alchemical adept in a room full of open books. Additionally, many of John Dee's manuscripts are in his own hand, as he actively read and copied the alchemical texts with which he came into contact.[221] If alchemy could be practiced textually, then scribally copying an alchemical text was a means to perform alchemy and create new alchemical knowledge.

The idea of a teleological progression of a text from manuscript to print is anachronistic for the hand-press era. The genre of early modern poetry, as illustrated by Harold Love, exemplifies how many texts including poems were privately circulated in manuscript form and intended for special recipients.[222] Political manuscripts were also frequently circulated privately, as is the case with much of John Dee's political writings, which would have been inappropriate for public

[221] Sherman, *John Dee*, 90.
[222] See Harold Love's *The Culture and Commerce of Texts* (1998).

consumption.[223] These examples illustrate the bidirectional and nuanced relationship between scribal and print cultures. Features previously exclusive to manuscript appear in printed texts, and conversely many printed texts were reproduced in the manuscript medium. For example, many of John Dee's manuscripts were never printed on the hand-press. This is not for a lack of interest (John Dee's library was renowned) but because the manuscript form served the function of presenting a unique work of an important alchemical adept.[224]

Conclusion

Just as alchemical scribal culture borrowed from hand-press techniques, alchemical hand-press texts are imbued with scribal culture, challenging the assumed dichotomy between the two media during the seventeenth century. At that same time that alchemical manuscripts materially copy and recycle alchemical hand-press texts, evidence of use and reuse in printed alchemical tracts illustrates the ways in which producers, readers, and owners created new knowledge in hand-press texts utilizing scribal techniques. This is not the first instance of print appropriating scribal culture, as it clearly did out of necessity with the advent of the printing press. When print was first conceived in the West with the Gutenberg press, the only conceptualization of a codex was the manuscript. Therefore, incunables, or early hand-press texts, look strikingly like manuscripts in their format and style.

This section concentrates on the ways in which the production of seventeenth-century alchemical manuscripts and hand-press texts are intended for specific audience, and how this is materially performed. While the producers of hand press texts made decisions about which marginalia survived the transition from manuscript to print, this was not a fixed reception of

[223] Sherman, *John Dee*, 117-118.
[224] Sherman, *John Dee*, 116-117.

text.[225] Readers frequently added their own marginalia and copied hand-press texts back into manuscript form, using and reusing both textual mediums in intersecting ways. The examples used in the scope of this project, which concentrates on *Fasciculus Chemicus* and adjacent seventeenth-century printed alchemical collections, illustrate the ways in which scribal culture was adapted for active reading and production of printed texts. To conclude, the following examples show how alchemical print culture continued to utilize alchemical scribal culture into the seventeenth century.

Theatrum Chemicum Britannicum

In the copy of *Theatrum Chemicum Britannicum* (1652) by Elias Ashmole held by the Beinecke Library (Mellon Alchemical 101), an owner employs the scribal technology that was previously noted of providing a short biography of the author at the beginning of the text. However, the author of this tome of English alchemical poems needs no introduction and was also extremely diligent about self-promotion. The owner of this copy made the decision to include a professional post-mortem biography of Ashmole that performs a number of functions. It illustrates that the owner is well versed in alchemical publications, especially considering that Ashmole used a pseudonym, James Hasolle, to publish the English *Chymical Collections* in 1650. This would also increase the value of this text by giving a laudatory account of its author and their impressive publication legacy.

Another copy of *Theatrum Chemicum Britannicum*, held by the Library Company of Philadelphia (Wing A 3987), employs scribal technology to solve a problem of a missing fold out etching by copying the large image by hand from another, more complete printed copy.

[225] Slights, *Managing Readers*, 7.

However, the owner misread the corresponding page number, so it is inserted at page 107 rather than 117, as it appears in copies with printed etchings. An additional change to this etching in the scribally copied version is that instead of the title at the top of the page, it is written adjacent to the chart (Figure 19). This would necessitate comparing this copy of the text to another copy that had the foldout (not all of them have this extra-collation feature) and shows that this particular owner valued the most complete copy of a text. Something has also been removed from this text, an image of two dragons with their necks entwined balancing on an orb reaching for a sun and a moon respectively (found on page 212 of the text). Assumedly this image was removed and placed somewhere else, likely in a manuscript, restarting the cycle between alchemical print and manuscript.

Fasciculus Chemicus

The following copies of the English *Chymical Collections* (1650) are heavily annotated. This indicates that readers materially used and reused this edition of the text, pushing the boundaries between print and manuscript through marginalia. In this way, printed books might more closely resemble manuscript through the annotations of their users.[226] In fact, Ashmole's personal copy of his 1650 hand-press edition of *Chymical Collections* is so heavily annotated, it is catalogued as a manuscript by the Bodleian Library.

A copy of the English *Fasciculus Chemicus* held by the University of Wisconsin-Madison (Duveen D 82) is filled with fascinating marginalia attempting to map seventeenth-century alchemical concepts, especially that of Azoth, onto eighteenth-century emerging naturalist ideas on genus and species. A copy held by Harvard (24226.34.5*) contains such

[226] Rampling, *The Experimental Fire*, Chapter 9.

intense marginalia in places that the owner has filled even the lines between the printed text. For this owner, the scribal information that is recorded is just as important as the text printed on the page to the point where it overtakes the printed type.

Although the media and production processes of scribal and hand-press texts are different, in that aspects of their respective cultures and technologies are distinct, they have the ability to cross media. Owners and readers were reading, using, and producing print and manuscript simultaneously. Additionally, alchemical texts necessitated their own specific scribal cultures by incorporating the long tradition of books of secrets and the hermetic nature of alchemical knowledge and experimentation. Alchemical experimentation was performed in many ways, and the margins of seventeenth-century hand-press texts were a popular site. Seventeenth-century alchemical books contain evidence of use and reuse that push the boundaries of the library and the laboratory. Secretive and hermetic knowledge found in hand-press alchemical books is further obfuscated and challenges the reader through pseudonomia. These aspects of alchemical knowledge-making and sharing will be explored in the following chapter.

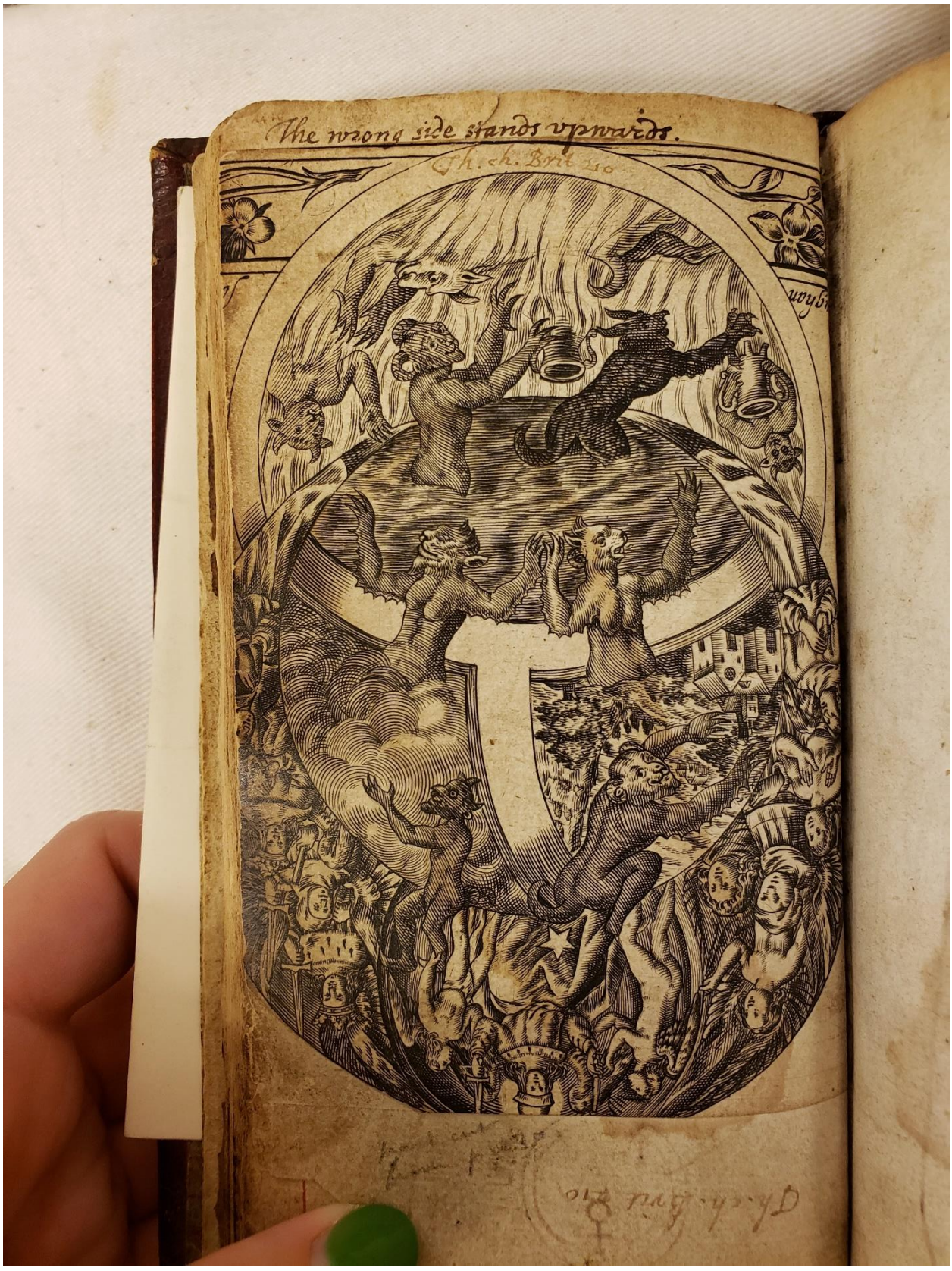

Figure 13 Subverted Salvator Mundi, Wellcome Library

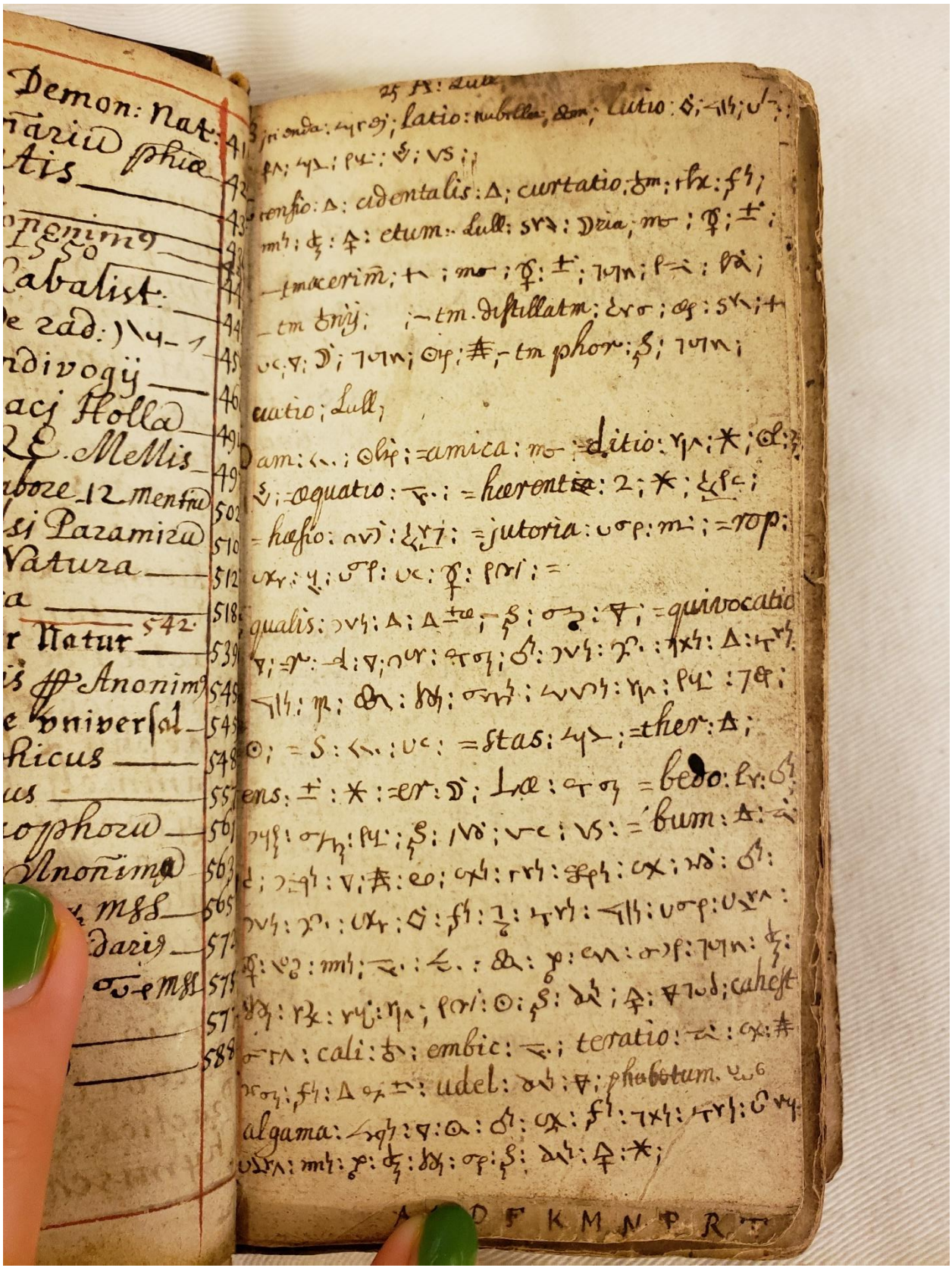

Figure 14 Coded Index, Wellcome Library

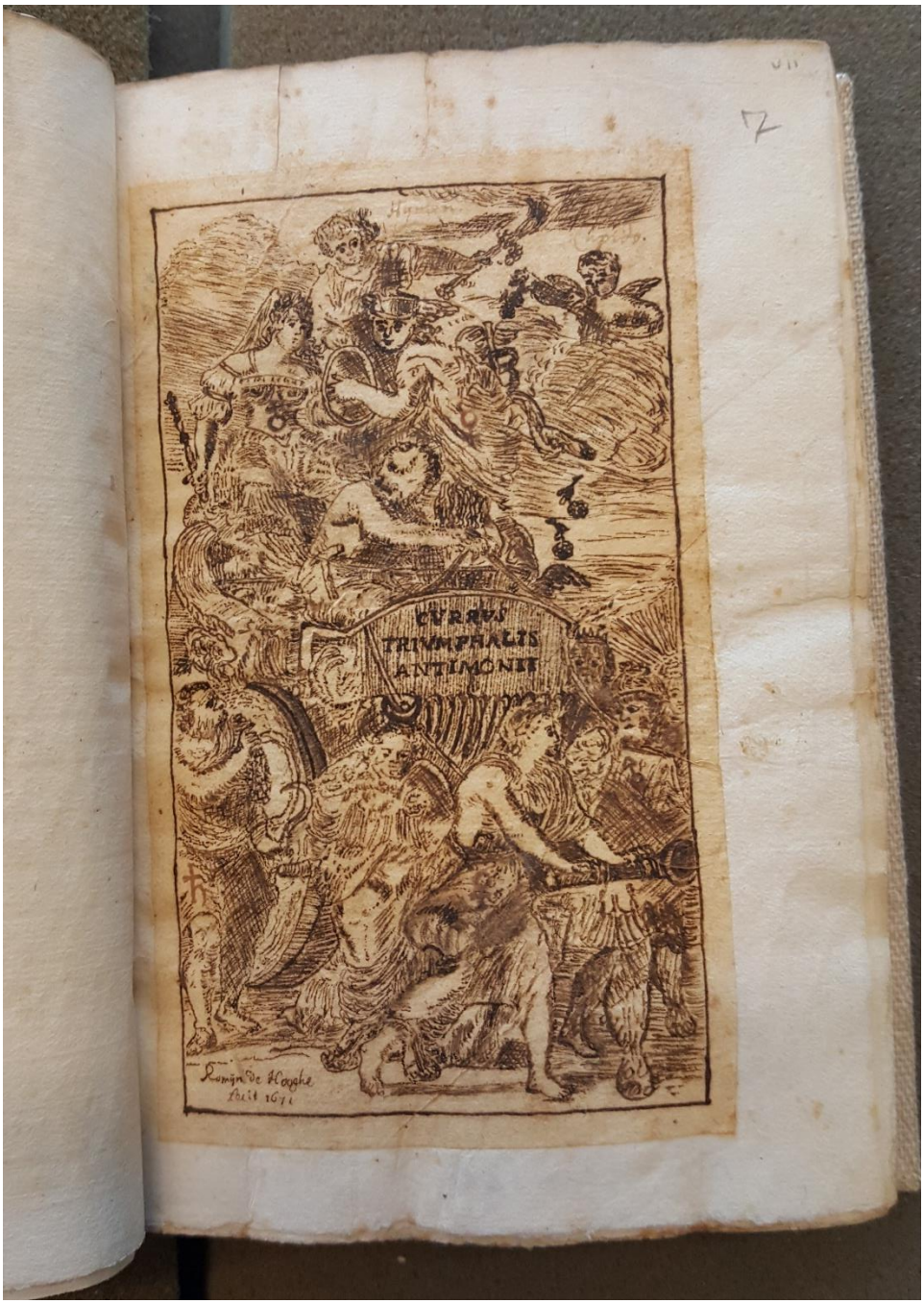

Figure 15 Frontispiece, Kislak Center

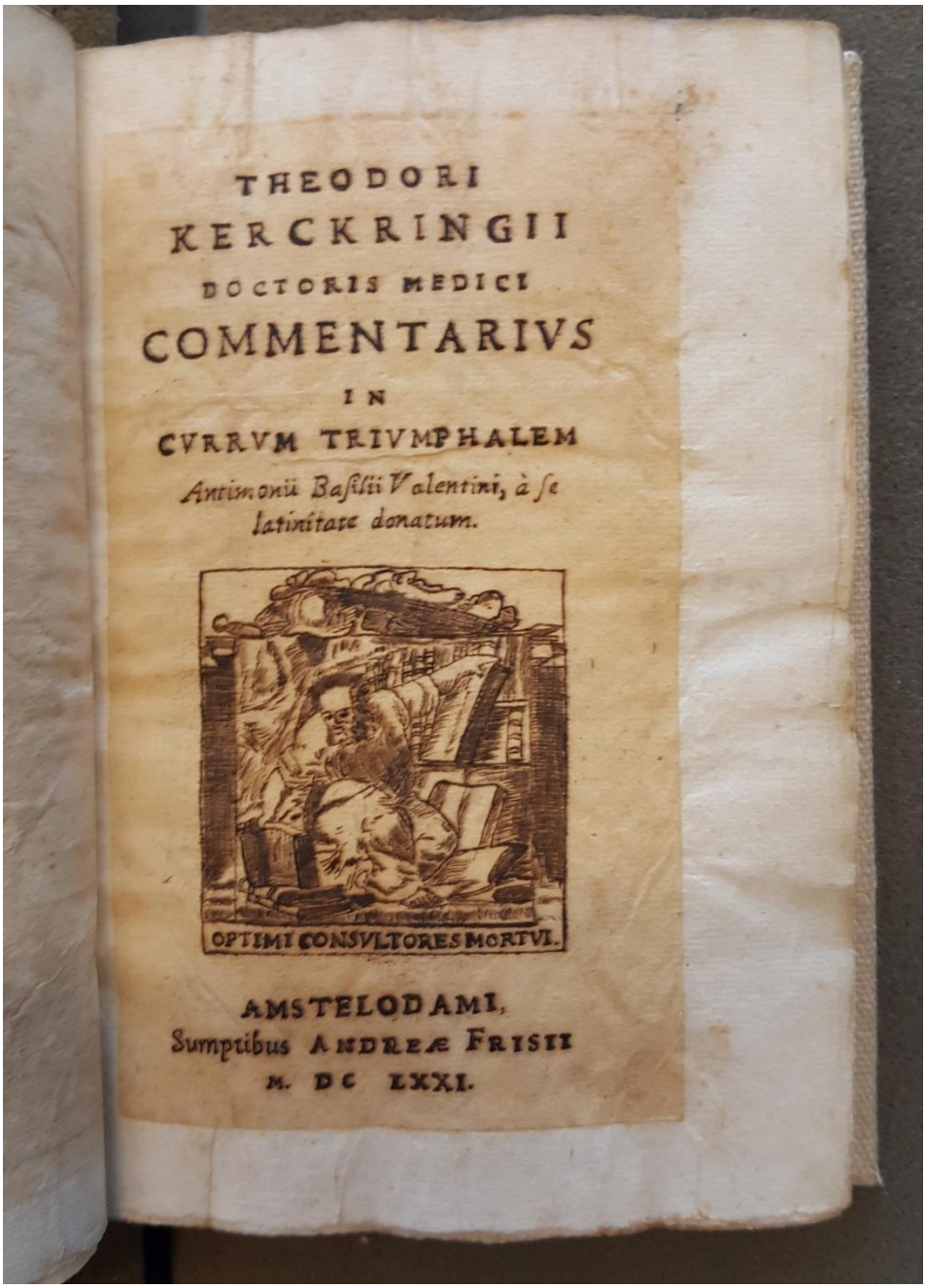

Figure 16 MS Title Page, Kislak Center

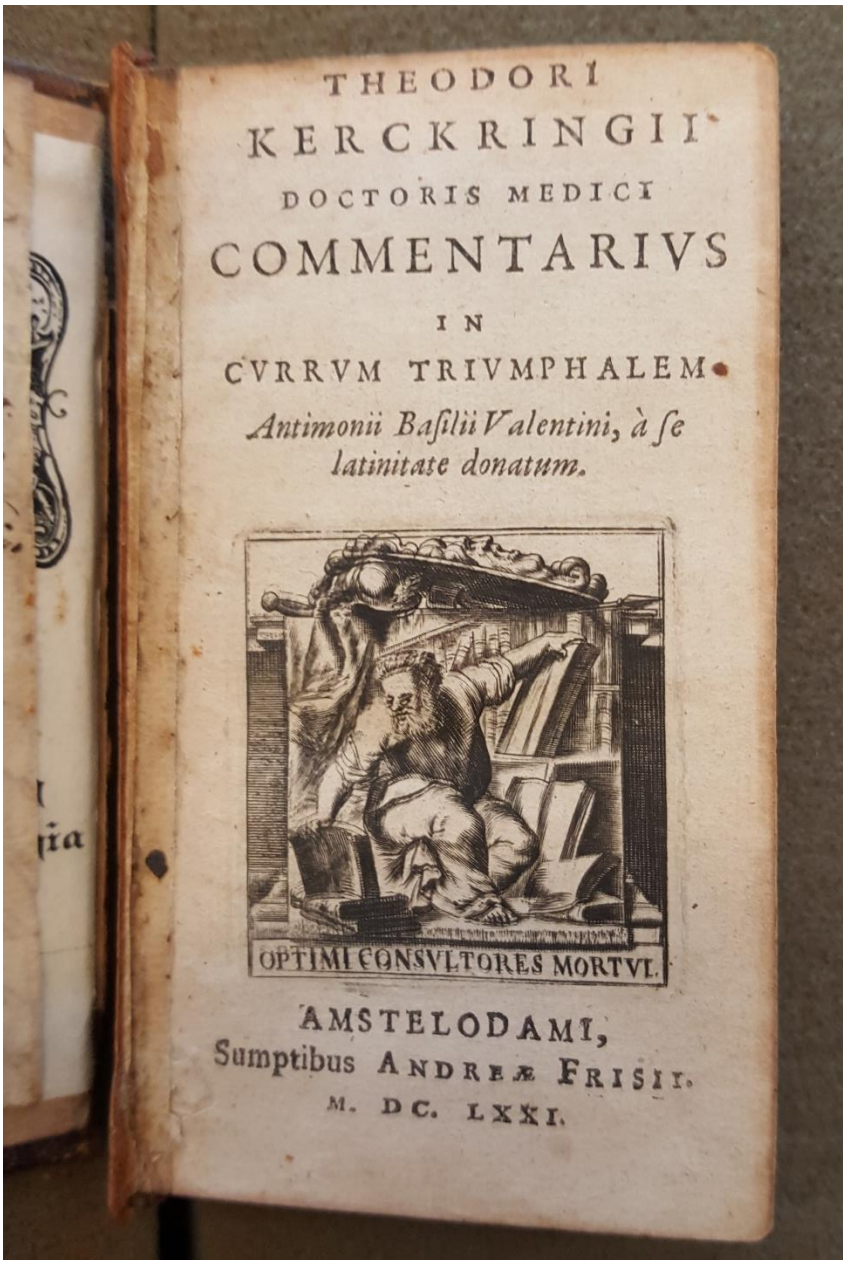

Figure 17 Printed Title Page, Kislak Center

Figure 18 Frontispiece, British Library

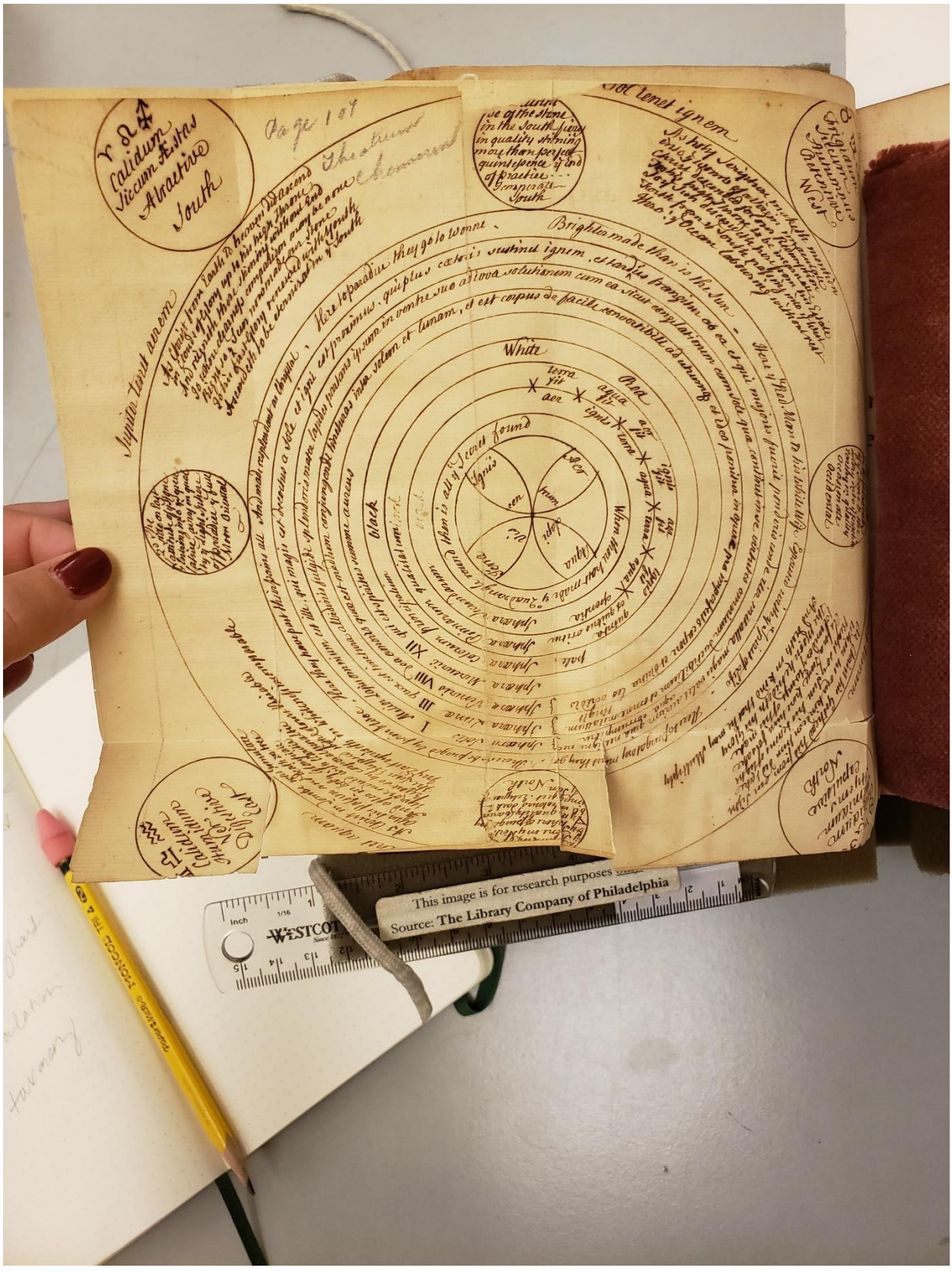

Figure 19 Fold-out Diagram, Library Company

4 SPECULATIVE ALCHEMY IN THE MARGINS

This final chapter will examine the concept of 'materiality of speculation' through the lens of *Fasciculus Chemicus* and will also bring in corresponding examples from other printed seventeenth-century alchemical collections. The concept of 'materiality of speculation' refers to the act of working through alchemical concepts through manipulation of material, specifically textual material. This idea builds on the early modern devotional tradition of speculative devotion. Early modern lay piety was aided by a complex material culture to support introspective practices. Devotional tools, including printed books and panel paintings, provided inspiration and support for speculative devotional practices. These objects could be "read" in a myriad of ways, allowing for a multiplicity of devotional experiences.[227]

This medieval tradition of utilizing material objects to inspire spirituality was theoretically applied to alchemy during the early modern period. Caroline Walker Bynum acknowledges this transference in her book, *Christian Materiality*. She explains that throughout the Middle Ages matter was understood as a changeable material, at least spiritually if not physically, and that "matter is powerful, hence dangerous, because transformative and transformed."[228] This is understood in early modern alchemical theory as the practice of transmutation, which necessitates the belief that through chemical processes one matter could become another. Similarly, the medieval devotional practice of visually expressing inner piety developed in early modern alchemy as speculative knowledge-making in the margins of texts.[229] Historians of readership practices can utilize books as cultural objects to help reconstruct the

[227] Piorko, "Nothing Good without Pain," 3.
[228] Walker-Bynum, *Christian Materiality*, 25.
[229] Walker-Bynum, *Christian Materiality*, Introduction.

seventeenth-century material, intellectual, and social worldviews in which readers operated.[230] Material evidence from alchemical texts supports the assertion that readers and owners were using texts in this way to work through alchemical concepts in the margins.

Like speculative devotion, all aspects of alchemical material speculation can be completed in the comfort of one's own home. Similar to the concept of a 'virtual pilgrimage', where the viewer uses visual prompts found in images within a devotional device to perform the physical journey using their imagination,[231] readers used alchemical texts to perform practical and esoteric alchemical transmutation without leaving their library. In fact, many aspiring alchemical adepts never moved their alchemical practices beyond their studies. It was common early modern practice to conceptualize knowledge-making as wholly possible through textual investigation, including the empirical aspects of alchemy.[232] Just as early modern lay piety could be practiced through meditation on an image or series of images, the process of early modern alchemical transmutation could be practiced using a text, or oftentimes many texts in tandem. This chapter will discuss evidence of readership practices that shows material speculation.

Recent work in the history of alchemy has been focused on laboratory practices and their subsequent impact on chemical and social history.[233] However, the library was also an important space for scientific knowledge-making and production.[234] Indeed the delineation between these two spaces of knowledge-production (the laboratory and the library; the practical and the speculative) would have been much more permeable to the early modern alchemical reader.

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[230] Sherman, *Used Books*, xiv.
[231] Piorko, "Nothing Good without Pain," 27.
[232] Timmerman, "Doctor's Orders," 38.
[233] See Lawrence Principe and William Newman's *Alchemy Tried in the Fire: Starkey, Boyle, and the Fate of Helmontian Chymistry* (2002) and Tara Nummedal's *Alchemy and Authority in the Holy Roman Empire* (2007).
[234] Sherman, *John Dee*, 49.

There were not separate alchemical readerships for experimental and antiquarian types of alchemical texts.[235] Speculative alchemy was informed by practical knowledge and experience, and experiment relied heavily on textual knowledge-making practices.

The ways in which readers used and interpreted these texts were individual and specific, and it is important to acknowledge the intentionality of speculation.[236] Historical circumstance affects, but does not determine, the ways in which a reader might respond to a particular text.[237] Much has been written about early modern reading practices, and specifically marginalia.[238] In fact, medical and experimental scientific texts were frequently heavily annotated when compared to other types of hand-press texts.[239] However, this chapter aims to delineate between typical early modern marginalia, and material evidence of readers and owners practicing alchemical speculation. Material speculation can take many forms, and one such means to work through alchemical issues in the margins is through drawing. Doodles, sometimes seemingly nonsensical or irrelevant to the alchemical process, are still a means of intentional knowledge-making. Conversely, some readers explicitly drew alchemical apparatus for experimentation. Both clearly empirically based drawings as well as fantastical images exemplify readers working through alchemical processes.

While there are many ways in which owners of alchemical texts showed their speculative work on the page, it is helpful to organize types of material speculation into broad categories for the purpose of interpretation. This chapter will examine three types of material evidence of

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[235] Rampling, *The Experimental Fire*, Chapter 9.
[236] McKenzie, *Bibliography and the Sociology of Texts*, 37.
[237] Sherman, *Used Books*, xvi.
[238] See William Sherman's *Used Books: Marking Readers in the Renaissance* (2008) and *John Dee: The Politics of Reading and Writing in the English Renaissance* (1995).
[239] Sherman, *John Dee*, 74.

speculation within seventeenth-century alchemical texts. The first is visual, which encompasses drawings, doodles, maps, or any sort of pictorial depiction of an alchemical concept. The second is marginalia that shows evidence of cross-referencing other alchemical texts for the purpose of creating or working through alchemical information on the pages. The third broad category of material evidence of speculation will address readers' responses to hermetically coded language such as solving ciphers and pseudonomia. The types of alchemical material speculation that will be examined in this chapter are all visual and scribal representations of personal alchemical knowledge-making. They all are examples of readers using texts in an interactive way and utilizing books as the medium of interaction. Speculative knowledge-making challenges the reader's assumed passive digestion of textual information, allowing for the reader to be an equal partner in the creation of alchemical meaning and value placed on certain alchemical information.[240]

The scope of this investigation into material speculation will use both the 1631 and 1650 editions of *Fasciculus Chemicus* as a jumping off point to examine the ways in which readers interacted with a particular genre of text, that of seventeenth-century alchemical compendia. To this end, two other intellectually adjacent texts will be investigated for material speculation as well, Elias Ashmole's *Theatrum Chemicum Britannicum* (1652) and Lazarus Zetzner's *Theatrum Chemicum* (1602-1661). Both of these texts are canonical examples of the genre. Ashmole's text explicitly illustrates the ways in which English alchemy held value beyond practical experimentation. For him, tracing his textual lineage back to ancient British wisdom of the Druids was immensely valuable.[241] These types of hand-press books are rife with examples of

[240] Sherman, *John Dee*, 54.
[241] Rampling, *The Experimental Fire*, Chapter 9.

cross-referencing and speculative experimentation due to their encyclopedic nature. The hermetic aspect of these texts lends itself to a myriad of esoteric scientific images depicted in the margins and flyleaves. The final concluding chapter will explore the subsequent stage of speculative knowledge-production, organizing and curating information.

Doodles as Speculative Knowledge-making

A range of visual depictions of alchemical knowledge-making can be found in seventeenth-century hand-press alchemical texts. Some drawings clearly reveal extensive practical knowledge of alchemical laboratory experimentation, while others are more esoteric in nature, describing an early modern worldview of hermetic symbolism and a micro-macrocosmic universe. Both types of images, which frequently overlap within the alchemical universe, are examples of the materiality of speculation. Within the tradition of speculative devotion, images held special power as visual objects.[242] Images found in scientific texts illustrate scientific knowledge and show how heavily science relies on external representation. To this end, images mediate knowledge and interpretation and push the boundaries of the information presented in the text to create new knowledge. Images straddle the realms of science and culture as well as practice and theory.[243] Thus, it is important to examine marginal images in the context of the text in which they are found; for this project, seventeenth-century alchemical collections.

In his book, *John Dee: The Politics of Reading and Writing in the English Renaissance*, William Sherman has a section on marginalia and reuse of texts. Here, he provides examples of enhancing scientific hand-press texts with speculative visual scribal additions such as Thomas Lorkin's copy of *Galen and Hippocrates* (Adv.e.12.1) and Sir Thomas Smith's copy of Paulus

[242] Walker-Bynum, *Christian Materiality*, 22.
[243] Lefèvre, Renn, and Schoepflin, *The Power of Images in Early Modern Science*, vii.

Aemylius Veronensis' *De rebus gestis Francorum* (QCL G.3.19). In both examples, Sherman argues that the marginalia simultaneously adds to and changes the text, creating handbooks or references guides for practical application. More specific to the scope of this chapter is his argument that the visual depictions were not merely doodles, but played an important mnemonic role, and posits that the practice of adding illustrations to hand-press texts was a type of annotation style going back to the sixteenth century.[244]

Fasciculus Chemicus

Copies of *Fasciculus Chemicus* are rife with evidence of readership, making them an excellent case-study for speculative knowledge-making and provide a space for exploration of adjacent seventeenth-century alchemical texts that show similar evidence of material speculation. The most curious example of alchemical doodles on the endpapers of *Fasciculus Chemicus* can be found in the copy held by the National Library of Medicine (2331030R). On the back free endpaper and back cover endpaper of this Latin copy of *Fasciculus Chemicus* are two striking hand-drawn images (Figure 20). On the verso of the free endpaper is a pencil drawing of a man astride a large bird similar to a goose or a swan, presented in profile. The endpaper facing this image contains a drawing in the same hand of the underbelly of the large bird from below, giving away its mechanical composition. There are screws and joints and compartments composing the larger than life animal.

It is impossible to discern artistic intention from these drawings found in *Fasciculus Chemicus*. However, many signs point to the fact that such doodles in seventeenth-century alchemical texts are not without meaning. Much of the marginalia left behind by early modern

[244] Sherman, *John Dee*, 72, 78.

readers has no clear relationship (at least to historians today) to the text in which they are found. Regardless, these images hold social and cultural meaning for the reader.[245] In an attempt to unpack this example, there are many references in familiar alchemical texts of a "goose of Hermogenes" or "Hermes bird" as it is called in Elias Ashmole's *Theatrum Chemicum Britannicum*.[246] There are also printed examples of similar looking alchemical birds in Basil Valentine's *Douze Clefs* (1599) and *The Philosophical Epitaph of W.C. Esquire* (1673). Rather than try to discern clear intention of marginalia, which is problematic and ultimately impossible, these alchemical doodles allow historians to experience the myriad of ways in which readers have materially altered texts and provide examples of people interacting with and interpreting alchemy, ultimately give new meaning to the text of seventeenth-century alchemical compendia.

Another drawing found in a 1631 edition of *Fasciculus Chemicus* is more clearly aligned with the subject of the text. It is located on the back pastedown and flyleaves of Mellon alchemical 91 at the Beinecke Library (Figure 21). On the recto of the flyleaf is a faint pencil architectural sketch of an aerial view of the interior of a building. A more detailed drawing in pencil of the interior of a space runs from the verso of the flyleaf onto the pastedown as a continuous image. This sketch has numbers corresponding to lengths of sides of the structure. These numbers are telling especially because they are clearly written in an early modern hand, allowing for a general dating of the image. It seems likely that this drawing depicts either a real or imagined alchemical laboratory space for experimentation. Additionally, this copy is a Rosicrucian issue of *Fasciculus Chemicus,* indicating that the original owner was a special recipient of the limited issue intended for members of the secret brotherhood.

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[245] Sherman, *Used Books*, xii.
[246] Ashmole, *Theatrum Chemicum Britannicum*, 213.

Two copies of the 1650 English *Chymical Collections* employ the use of doodles to depict alchemical experiments being performed, which frequently include an image of an alembic. Images of physical experimentation are crucial to speculative knowledge-making, as early modern alchemical readers sought the material world in the visual realm.[247] In the copy held by University of Wisconsin Madison (Duveen D 82), which is heavily annotated with various types of marginalia, drawings of alembics are present within the marginal markings. However, these are not images of an alchemical process taking place, but simply a symbol of an experimental instrument. Instead of illustrating alchemical transmutation, these depictions of alembics are used in the same way as manicules—to draw attention to a particular part of the text, specifically a part that mentions alchemical transmutation.

A second copy of the English edition of *Chymical Collections,* held by the National Library of Medicine (2331031R), is heavily annotated with alchemical symbols and doodles of alchemical experimentation. Unlike the previous mentioned copy of the 1650 *Chymical Collections*, these drawings depict specific alchemical processes, and clearly show adeptness in carrying out practical experimentation. Similar to the previous example in *Fasciculus Chemicus*, they are located in the margins beside text corresponding to the specific experiments described. This shows a direct correlation between image and physical alchemical process, sometimes described in esoteric language. For example, page 241 of the text describes the Philosophers' Egg as "The second Vesselll of Art may be of Wood, of the trunk of an Oake, cut into two hollow Hemisphears, whereinthe Philosophers Egge may be cherished till it be hatched; of which see the Fountaine of Trevisanus." The image drawn beside this hermetically described process is of practical experimentation, translating the alchemical allegory into physical transmutation.

[247] Walker-Bynum, *Christian Materiality*, 24.

Another example on page 243 describes the physical process of heating a plate in a furnace, and this is also sketched out in the margin beside the text (Figure 22).

In these examples, the reader is trying to work through esoteric and practical descriptions of alchemical processes in the margins of this hand-press text by enacting material speculation. Books of secrets are part of alchemical textual lineage, and speculative knowledge-making draws upon this tradition. Readers and owners of books of secrets did not rely on physical experimentation to test theories. Within the books of secrets tradition, empirical explanation was not necessary for successful results and experimentation was only employed to test the efficacy of a recipe.[248] Alchemical compendia build off of this belief by merging practical experimentation with speculative knowledge-production, the latter of which could be performed in the library and did not rely on empirical evidence for validation.

Examining some of the early modern readers of *Fasciculus Chemicus* may shed light on the seventeenth-century use and reuse of this text. In his seventeenth-century *Catalogue of Chymicall Books*, William Cooper lists Ashmole's 1650 English translation of *Fasciculus Chemicus*, indicating it was an important text within the category of seventeenth-century alchemical hand-press books.[249] The 1631 Latin edition is cataloged in Arthur Dee's friend Sir Thomas Browne's library.[250] A Rosicrucian issue of the 1631 edition, with a hand written dedication from Arthur to John Winthrop Jr., was donated to the Beinecke Library by the Winthrop family, and thus it can be presumed that the first governor of Connecticut was a seventeenth-century reader of the text. Clearly Ashmole was also an owner of the 1631 Latin

[248] Eamon, *Science and the Secrets of Nature*, 194.
[249] Kassel, "Secrets Revealed," A1.
[250] Finch, *A Catalogue of the Libraries of Sir Thomas Browne and Dr Edward Browne*, 108.

Fasciculus Chemicus, and heavily annotated his own copy of his 1650 translation, currently held at the Bodleian Library.[251] In another copy held by the Bodleian (RRz.11) the bookplate of John Radcliffe (1650-1714), an Oxford physician who donated a wing of the library, is pasted to the front endpaper. This small sample of seventeenth-century owners of *Fasciculus Chemicus* shows the range in alchemical interests of its readers. Physicians, antiquarians, political leaders, and explorers all used *Fasciculus Chemicus* for their own alchemical agendas, as is evident by the variety of visual speculation on the pages of the text.

Theatrum Chemicum Britannicum

While this project was imagined due to the fascinating examples of materiality of speculation in copies of *Fasciculus Chemicus*, others can be found in adjacent seventeenth-century alchemical compendia that provide evidence of this mode of knowledge-making and deserve to be explored. Readers and owners were using these texts in tandem to create new knowledge. Just two years after Elias Ashmole published the English edition of *Fasciculus Chemicus*, he published his most famous text, a collection of English alchemical poems titled *Theatrum Chemicum Britannicum* (1652). Both scribal and hand-press copies of this tome are rife with examples of the materiality of speculation, and especially doodles.

The Wellcome Library holds both a manuscript and a hand-press copy of *Theatrum Chemicum Britannicum*. While the text includes famous printed alchemical images of frontispieces and esoteric alchemical symbolism, both of these copies are full of extra-textual drawings added by readers as they worked through the alchemical concepts in the text. The hand-press copy (EPB/B/11380) is full of amateur doodles of animals and people in a fantastical style.

[251] See Chapter 3.

The animals include a dog and a horse while the people depicted are riding horses or moving their bodies, possibly dancing. There is no clear alchemical meaning behind these drawings, other than that they appear in a text devoted to English alchemy. Early modern readers that owned this renowned alchemical compendium, written by an antiquarian so highly esteemed as Ashmole, would have been serious collectors and likely alchemical adepts.

The scribal copy (MS 3563), analyzed in the previous chapter for its physical manipulation of the hand-press text incorporated into the manuscript, also has rich marginalia of alchemical instruments and processes, showing that this type of speculative knowledge making easily transferred back and forth between alchemical scribal and print cultures. Many of the images discussed in Chapter 3 that were recycled and manipulated for the production of this manuscript were esoteric alchemical images. The practical experimental doodles stand in stark contrast to the printed images of symbolic hermetic interpretations of alchemical processes. The drawings feature many scientific instruments and various stages of alchemical transmutation (Figure 23). The reused printed images provide a layered hermetically hidden meaning that an educated reader could deconstruct, while the marginal drawings of experimentation illustrate the tacit knowledge that the reader would have applied to the alchemical text. Pamela Smith describes 'tacit knowledge' as generalized knowledge and use of judgement that comes from practice and experience.[252] While hard to qualify, the experimental doodles left in the margins by early modern readers aid in historical understanding of this implicit skills-base from which practitioners drew.

Theatrum Chemicum

[252]Smith, *Making and Knowing*, 8.

The final seventeenth-century chemical collection serving as evidence for this project is Lazarus Zetzner's *Theatrum Chemicum*, published in multiple volumes and editions between the years 1602 and 1661, providing a long temporal range for observing change in print culture and readership practices over time within a single text. In the concluding chapter this text will be examined for its curatorial properties, but for the scope of this chapter it will be analyzed as a canonical collection of famed alchemical tracts, to which Ashmole is responding with his similarly titled *Theatrum Chemicum Britannicum*. It is a continental text, published in Strasbourg, but does not put any geographic limitations on the alchemical texts included in the multi-volume set. It is one of the first examples of a collection of alchemical tracts within a single hand-press edition which came into vogue in the seventeenth century.

One of the copies of volume six of *Theatrum Chemicum* held by the Othmer Library at the Science History Institute (QD 25.7443 v.6) has an interesting experimental doodle on the verso of the back flyleaf (Figure 24). While this pencil drawing depicts the process of distillation with alchemical alembics, a funnel, and a furnace, it is drawn in such an amateur way that does not prove that this owner has enacted the physical process of alchemical transmutation beyond the library. It does illustrate speculative knowledge of practical alchemical experimentation, encouraged by the use of the complete six volume edition of *Theatrum Chemicum*.

A copy of the fourth volume of *Theatrum Chemicum* from the 1613 edition held at University of Pennsylvania's Kislak Center (540.1 T342) includes a foldout printed chart. On the blank side of this inserted leaf is a drawing of an alchemical sun with a face, and a landscape scene with tools for mining metals, sketched in a red pencil. Below the image is a Latin phrase referring to the drawing, but difficult to comprehensibly read. In this example an owner sketched an esoteric alchemical scene on the back of a technical drawing of the microcosm of the world.

Thus, they are interpreting the spiritual alongside the natural philosophical aspects of alchemy. The harmonious and mutually influential relationship between man and the universe was an accepted basis for the alchemical worldview. This was enhanced by hermetic and Cabalistic expressions of cyclical connection between nature, man, and god that transcends linear time.[253] It is through this esoteric alchemical lens that bridging these traditions in the form of hermetic drawings can be placed in its historical context, that of speculative knowledge-making based on alchemical collections.

The final evidence of this type of materiality of speculation in the form of marginal drawings and doodles in seventeenth-century alchemical compendia is a unique example found in a copy of the fifth volume of *Theatrum Chemicum* from the same 1613 edition as the previous text, from the collection at the Kislak Center (540.1 T342). This text is filled with charts and numbers within the lines of the text and spilling over into any available marginal spaces (Figure 25). This reader appears to be applying Cabalistic numerology to Latin (rather than Hebrew), by assigning numbers to certain letters or letter groupings and is located solely in a particular tract in the volume, *Allegoriarum Sapientum*. Multiple hand-press texts circulated during the seventeenth century touting the necessary connection between the mystical Jewish art of Cabala and the hermetic art of alchemy. In actuality, alchemists appropriated Cabalistic intentions for their own purposes, creating something altogether separate from the Jewish tradition.[254] This owner has created a system which includes both Arabic and Roman numerals in the equations, yet is clearly founded in logical math. This example illustrates one reader's attempt to use an

[253] Yates, *Giordano Bruno and the Hermetic Tradition*, 169.
[254] Forshaw, "Early Modern Alchemists and Cabala," 361.

alchemical text to work through scientific and mathematical problems in the margins, without requiring practical experimentation in order to speculatively process the alchemical information.

Cross-referencing as Speculation

Seventeenth-century alchemical libraries were simultaneously a collection of texts as well as a complete unit meant to be consulted together. Such philosophical libraries were imbued with comprehensive knowledge, holding a status as a text or a meta-text.[255] As such, texts were not only readily available to be cross-referenced, but necessitated it. Cross-referencing was particularly valuable to those attempting to understand the vast corpus of alchemical literature available to the seventeenth-century reader. Usually, cross-references were employed to connect alchemical tracts or even draw conclusions from different passages in the same text.[256] There is a plethora of evidence of readers cross-referencing texts in the margins, and the advent and subsequent popularity of seventeenth-century alchemical compendia such as *Theatrum Chemicum* and *Theatrum Chemicum Britannicum* illustrate the need for easy access to multiple alchemical tracts at once. The preface of the 1893 English edition of *The Hermetic Museum*, the title itself being a metaphor for an alchemical library, elucidates this phenomenon,

> "But many writers having discussed this subject, and treated it from various points of view (so that one writes more clearly than another, and each throws light on the other's meaning), some of my friends, who are adepts in this Art, urged me to add to the former collection certain treatises supplementary of those already given."[257]

[255] McKenzie, *Bibliography and Sociology of Texts*, 62.
[256] Sherman, *John Dee*, 82.
[257] Waite, *The Hermetic Museum*, preface.

Not only did readers consult multiple alchemical texts at the same time to create and validate knowledge, they checked texts against other copies to correct and complete their own, indicating that early modern readers were aware of the capacity for copies of a single edition of a hand-press text to be anomalous from one another. During the seventeenth century a new attitude toward notetaking arose, which in turn influenced the ways in which adepts and antiquarians treated their collections. This period saw a reevaluating of notes as a long-term addition to a text that would be circulated beyond a single reader or owner. Notes were valued as interpretive reading tools that added to the knowledge within a text as much as they served a knowledge processing function for the note-taker. This is a specific repercussion of a general shift in knowledge as something that could be accumulated, as in the case of cabinets of curiosities or *Kunstkammer*.[258]

Fasciculus Chemicus

Fasciculus Chemicus begins the reader's work of cross-referencing alchemical tracts for complete knowledge. Arthur Dee includes references and page numbers for his sources, organizing them in such a way as to mirror the alchemical process of transmutation. The dedication describes Dee carefully curating tracts by well-known hermetic authors to create new alchemical knowledge, "yet at length I found (by Gods assist-ance,) that they [alchemical texts] agreed Hermetically and Harmonically, in one Way, and one Truth".[259] Dee meticulously prints his sources (spanning Pythagoras to Basil Valentine) including the page numbers in the margins of the body of the text. There is no list of tracts or other points of reference for the authors from whom Dee borrows, and their respective knowledge is chosen for a specific adept audience and

[258] Blair, *Too Much to Know*, 63-64.
[259] Dee, *Fasciculus Chemicus*, English edition, a2v.

organized to illustrate the alchemical process of transmutation. In this way, he is not merely a publisher or translator of other adepts' alchemical tracts, but a practitioner sharing his own knowledge and experience with an intended group of alchemical readers.

However, some seventeenth-century owners took it upon themselves to rebind *Fasciculus Chemicus* with other alchemical tracts. The 1631 Latin edition of *Fasciculus Chemicus*, held by University of Wisconsin-Madison (Duveen D466), was rebound to include the 1608 edition of *Novum Lumen Chymicum* by Polish alchemist Michael Sendivogius. What is especially fascinating about this rebinding, which in general was a common practice, is that the provenance is known and can be traced back to the original seventeenth-century pairing of these two texts. Both texts were published in Paris and made into a single codex by Nicolas Vauquelin des Yvetaux, who was a philosopher, poet, epicurean, and a contemporary of Dee's.[260] Clearly Vauquelin des Yvetaux thought there was speculative value in creating a book from these adjacent alchemical texts.

An additional connection between these two texts is that the Sendivogius tract is mentioned in a letter from Sir Theodore Turquet de Mayerne to Arthur Dee dated January 1634, "Your former letters to me and to some of my friends asked for information on that dissolving gold which is obscurely mentioned by Cosmopolita[261] in the *Novum Lumen Chymicum*."[262] Mayerne elaborates that he indeed has understood the alchemical process described in this tract, but that he has no time to explain because his courier is ready. Thus, Arthur Dee saw special alchemical value in *Novum Lumen Chymicum.* This connection between Dee and Sendivogius

[260] Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 7.
[261] A pseudonym for Sendivogius.
[262]Appleby, "Some of Arthur Dee's Associations before Visiting Russia Clarified," 6.

supports the idea that Vauquelin des Yvetaux bound these two alchemical tracts together for a practical speculative reason, beyond convenience.

This tactic of cross-referencing alchemical texts by bringing two originally unconnected tracts together into one codex could sometimes begin during the hand-press process, as is the case with the English *Fasciculus Chemicus,* in which two tracts were printed together for the same edition. This serves as a strong suggestion to the reader that these texts work well in tandem and supplement each other's respective alchemical knowledges. The 1650 English edition of *Chymical Collections*, published by Elias Ashmole, was originally printed and bound with the third edition of Jean D'Espagnet's contemporary tract, *Arcanum*.[263] A copy held by the Bodleian Library (Wood 680) is rebound to add a third alchemical tract to the codex, *Novum Lumen Medicum* by Joachim Poleman, printed in 1662 also in London. All three of these texts purport to answer the secrets of alchemy, but their being bound together suggests that they necessitate cross-referencing in order to illuminate the alchemical mysteries.

Conversely, there are also examples of texts that were once intended to be bound together being separated by owners and modified in ways to encourage material speculation. In a copy held by the British Library (1033.d.59) an owner has separated the two tracts that make up the English edition of *Chymical Collections*. They have rebound the D'Espagnet text and spliced blank pages between the printed leaves for scribal annotations while reading the text. This has resulted in this text being cataloged separately from its original codex mate, the English *Fasciculus Chemicus*. In both cases it is very clear that the books have been rebound. This copy

[263] This is not the first instance of the publisher, J. Flesher, reprinting a text to complement a similarly themed tract. In the case of the English *Fasciculus Chemicus*, Ashmole takes responsibility for the pairing in his Postscript, "I happily met with the following Arcanum, and perceiving it to suit so punctually with these Chymical Collections…I adventured to translate it likewise, and perswaded the Printer to joyn them into one Book." (A8v)

of *Fasciculus Chemicus* is pasted onto newer paper at the gutter and the separated and rebound version of *Arcanum* has clearly added pages to aid the reader in their speculative alchemical journey. This serves as a reminder that readership practices, while prescribing to print-culture norms, are ultimately unique and individual. This duality allows historians of the book to map broad trends, such as seventeenth-century alchemical material speculation, while continuing to investigate and be surprised by specific anomalies.

Theatrum Chemicum Britannicum and *Theatrum Chemicum*

Fasciculus Chemicus encourages readers to cross-reference alchemical tracts by the very nature of being a small collection of the self-proclaimed 'choicest' alchemical works. However, this small suggestion to the reader to cross-reference is amplified with the advent of large, multi-volume collections of alchemical tracts that are comprehensive in nature. In most examples, the evidence of cross-referencing texts in collections such as *Theatrum Chemicum Britannicum* or *Theatrum Chemicum* is insular to the texts curated and provided by the publishers within the alchemical edition. Inherently self-referential collections are rife with unique marginalia that serves as material evidence of speculative alchemical knowledge-making using these texts. Ashmole even included cross-references and marginalia he found in the manuscripts that comprise the printed *Theatrum Chemicum Britannicum*, illustrating how early modern readers understood that these additions enhanced the veracity of alchemical tracts. For example, Ashmole included John Dee's annotations of the tract *Testament* found in the margins of his fifteenth-century Harley manuscript, which was subsequently printed in *Theatrum Chemicum*

Britannicum. Ashmole even made a special note in his personal copy that the *Testament* was originally written in Dee's own hand.[264]

An owner of a copy of *Theatrum Chemicum Britannicum* held by the Othmer Library (QD25 .A65 1652) has exemplified the duality of individual style and broad phenomenon of material speculation. The owner employs early modern readership tactics such as manicules and self-directives such as "Read" in the margins. However, these typical symbols of material speculation become subverted in their iconography as one turns the pages of this text. What begins as a traditional (albeit sloppy) manicule to point out an important passage, metamorphosizes into a hand with a finger pointing away from the text toward the edge of the pages (Figure 26). Similarly, the owner annotates the text by writing "Read" in some of the margins next to paragraphs, which changes to "R" and finally to a backwards "R" (Figure 27). For this reader, both of these traditional means to indicate to an important passage in the margins of a hand-press text have become symbols which retain their meaning although their form changes. The manicule has lost its representational meaning of a pointing finger and gained the status of a symbol. Similarly, the R no longer needs to be an abbreviation for the word 'read' to have the same meaning. In this case the visual signifiers to 'read' and 'draw attention to' become symbols that are subsequently changed while still retaining their meaning. Thus, this owner has created a very personal and material way to speculate in the margins of a seventeenth-century alchemical text, proving that the symbols of active readings need not be literally interpreted to be speculative.

[264] Rampling, *The Experimental Fire*, Chapter 9.

It is unsurprising that both the prefatory material of *Theatrum Chemicum* and of *Theatrum Chemicum Britannicum* go to lengths to impress upon the reader from what authority the publishers have compiled these alchemical compendia. The former includes two dedications and a preface in the final sixth volume, which was published by Johann Jacob Heilmann due to the death of Zetzner, and the latter explicates, "The Subject of this ensuing Worke, is a Philosophicall 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…" Not only must the publishers validate such an arduous printing process for these impressive tomes, but also convince the reader to trust them, that the tracts which they have selected are indeed the most vital and canonical alchemical tracts. However, unlike Dee's *Fasciculus Chemicus*, where the most important passages are presented to the reader in order of practical alchemical application, the full-tract alchemical collections require the reader to do much more speculative work to decipher the truth from the text and connect them to corresponding passages.

Decoding Obscured Hermetic Knowledge

The final type of material speculation that this chapter will address is the act of solving coded information in seventeenth-century alchemical texts and will exclusively concentrate on examples from *Fasciculus Chemicus*. Pseudonomia and other forms of obfuscation of knowledge were popular in hand-press texts. A pseudonym did not indicate that an author or publisher wished to remain anonymous, but served to add another hermetic layer to alchemical knowledge-making. It is important to remember that early modern conceptions of authorship are not the same as modern ones that privilege originality and authorial recognition. William Sherman posits that early modern readers and publishers understood all discourse as continuing a previous

discourse and thus all writers are rewriters, building upon medieval notions of authorship going back to the thirteenth century.[265]

Using *Fasciculus Chemicus* as a case-study, this section examines the ways in which readers interacted with the obscured hermetic information, particularly anonymity and pseudonomia, in these texts by creating ways to crack the codes and prove their alchemical prowess. The hieroglyphic and riddling dual image-language model of early modern alchemy was frequently interpreted in unique ways by authors and publishers, who believed that true adepts would be able to decipher the language codes to come to the correct alchemical interpretation.[266] Solving riddles in the margins is a means of material speculation and thus aids in the creation of alchemical knowledge, as familiarity with canonical authors and concepts was a key aspect to alchemical adeptness.

Some codes were not meant to be understood by potential readers, and instead served to showcase the hermetic knowledge of the owner or simply served the function of shorthand.[267] Ashmole's own personal presentation copy of his 1650 English edition of *Chymical Collections* (MS Ashmole 1664) is the latter. It is clearly a presentation copy, as it contains the same print-anomalies as other presentation copies (see Chapter 2). It also contains personal letters, scientific drawings, his own horoscope, and annotations by Ashmole himself. Ashmole's annotations to both texts included in this codex are frequently done in his secret coded shorthand throughout.[268] Finally, the title page of this copy is fascinating because Ashmole corrects the misspelled

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[265] Sherman, *John Dee*, 122.
[266] Newman, "Decknamen or Pseudochemical Language," 163-164.
[267] See Chapter 1 for more on Arthur Dee's medical notebook.
[268] C.H. Josten decoded Ashmole's cipher, claiming that is uses a combination of John Willis's stenography/shorthand and Ashmole's own symbols and abbreviations. (Geneva, *Astrology and the Seventeenth Century Mind*, 26.)

Mercuriophylus that is an indicator of presentation copies as well as solves his own pseudonomic anagram of ‘James Hasolle’ as Elias Ashmole. In doing so, Ashmole is mimicking the early modern reading practices that this text necessitated.

Most early modern readers and owners of the 1650 English *Chymical Collections* picked up on these readership cues. The Smith collection copy from the Kislak Center (QD25D4) has a ‘clean’ or unannotated title page, but the prologue is also signed ‘James Hasolle’, to which a reader noted “alias Elias Ashmole”. Even more effort is put into decoding the author of the *Arcanum* following *Fasciculus Chemicus*. Here, the owner has created a numeric cipher and assigned numbers 1 through 16 to letters in the anagram “Penes nos unda Tagi” to decipher the concealed author Joannes d’Espagnet (Figure 28). This may have been an unintentional anagram on the part of Ashmole, as there are a few spelling/type variations that this necessitates to be a pseudonym for the author. The reader assigned the number 15 to the letter ‘u’, which is actually the second ‘e’ in ‘d’Espagnet’, and they assigned the letter ‘i’ to the ‘j’ in ‘Joannes’ which is typically interchangeable in hand-press type but points to the illusion of an anagram where none exists. This type of speculative knowledge-making, that results in questionable conclusions, illustrates the early modern experience of working through hermetic information. This owner made the logical deduction that if the publisher’s identity is obscured in a way that encourages materially exemplifying knowledge of alchemical authors, then a second ‘concealed author’ within a text might very well be hidden within an anagram on the title page.

The copy of the 1650 *Chymical Collections* held by Harvard (GEN 24226.34.5*) has a note written beside the title page, “Hasholle is a nom de plume of Alias Ashmole”, with Elias spelled incorrectly. This illustrates how an owner could perform the act of decoding a pseudonym without acknowledging the anagram. On the title page, in a different hand, an owner

has listed the names of both authors and the publisher. In a copy held by the British Library (234.a.18) an owner notes on the title page that Ashmole is the publisher and Dee is one of the authors, but there is no mention of d'Espagnet. The front flyleaf adjacent to that title page has evidence of censorship in the marginalia explaining that James Hasolle is Elias Ashmole, but the last two letters of 'Hasolle' have been removed. A copy held by the Library Company of Philadelphia (D 810) elucidates the name of the publisher, Elias Ashmole Esquire, on the front flyleaf. Additionally, a numeric code is assigned to his anagram on the title page. That there is a second example from a single edition of an anagram being decoded in this way points to a trend in pseudonomia and readership practices.

It has been illustrated by the forced anagram for the author of *Arcanum* that pseudonomia and writing in hermetically sealed hieroglyphs is inherently confusing. This is especially true for readers and owners beyond the seventeenth century, who find themselves temporally and geographically removed from the original 'joke'. Reading is a practice which has gone through a cultural transformation over time. In order to read between the lines, Sherman calls for "reading without reading".[269] In doing so modern readers acknowledge their distance from the text, and thus their cultural displacement from historical actors, as means to investigate the text. To not understand the cultural significance of a 'joke', or in this case a hermetic riddle, shows that modern readers cannot truly experience the text beyond the context available to them.[270]

Seventeenth-century European and colonial alchemical practitioners who obtained and used Ashmole's English translation of *Fasciculus Chemicus* would have been familiar with the publisher and his reputation for anagrammatic enigmas. In fact, there are two other hermetically

[269] Sherman, *Used Books*, xv.
[270] Darnton, *The Great Cat Massacre*, 78.

hidden references to the publisher in the frontispiece, that of an Ash tree and a mole as well as his personal horoscope (Figure 11). Ashmole's pseudonym was widely known to the extent that it was included in Placcius' 1708 *Theatrum Anonymorum et Pseudonymorum*. However, for a later owner who may not be familiar with Ashmole, and even less so with Arthur Dee, the obfuscation of authors and publishers leads to misattribution and confusion.

The copy held by the University of Wisconsin-Madison (Duveen D82) was clearly marked in by an eighteenth-century reader due to the frequent mentions of Linnaean species as well as handwriting style.[271] The owner has decoded the hermetic frontispiece and labelled the central figure of Hermes Trismegistus as Azoth, and has written the name Azoth throughout the text. This is their first conflation due to hermetically coded information, confusing the secret substance for alchemical transmutation with the mythical god of alchemy. On the title page someone has written Arthur Dee's name next to the title *Fasciculus Chemicus* as well as Elias Ashmole's name next to his anagram. Although someone has identified the author and publisher correctly on the title page, within the text a critical reader has remarked "Ashmole's erroneous blunders" next to a passage on page 62, clearly confusing the publisher for the author. This reader refers to Ashmole's mistakes and ideas throughout the text authored by Arthur Dee. Finally, at the end of *Fasciculus Chemicus*, the reader writes "Elias Ashmole forms per anagram, James Hasolle. Elias Ashmole thought that the work consisted of [alchemical symbols for sun and mercury] revived into running [symbol for mercury] perfectly pure. It may be possible but it does not agree with the philosophers."

[271] As fascinating as mapping Linnaean principals onto a seventeenth-century alchemical text is, that aspect is beyond the scope of this project.

There are further copies of the 1650 *Chymical Collections* that incorrectly attribute authorship to Ashmole, and others still that attribute the book to Ashmole's anagram. A presentation copy held by the Bodleian (8oG7) has noted at the bottom of the title page "James Hasolle is the Anagramme of Elias Ashmole Esquire, who was the Author of this booke. Who also writ Theatrum Chemicu[m] Britannicu[m]. Edit. Lond. 1652". This owner was familiar with Ashmole's most famous work, but did not discern that he published two tracts by other alchemical authors in this edition of *Fasciculus Chemicus*. In the copy held by Lehigh University (T540.1 D31) the frontispiece is in place of a missing title page, and Elias Ashmole's name is written under the words "The Work of a concealed Author" on the *Arcanum* title page, misattributing D'Espagnet's text.

Finally, a couple of extant copies miss the playful anagrams entirely and attribute the book to James Hasholle. The Fischer Library at University of Toronto has a copy of the 1650 *Chymical Collections* (sci 00704) that has Elias Ashmole's name written adjacent to the title page as well as a note on the flyleaf that states, "The Book is written by Elias Ashmole". However, the spine describes the books contents as "Hasolle's Collection & Arcanum". The copy held at the University of Chicago (QD25.D40) is very nicely rebound, but the name Hasholle is featured on the spine in gold guilt, as the first thing the reader sees as the remove the book from the shelf. The owners that rebound these copies are so far removed from seventeenth-century alchemical culture and the anagrammatic joke has not been perpetuated over time but was forgotten. The concept of material speculation for alchemical readers cannot be reconciled with the emphasis on empirical science with the advent of scientific societies at the end of the seventeenth-century. Further, they are not heeding the hermetic warning on the frontispiece.

"These Hieroglyphicks vaile the Vigorous Beames

Of an unbounded Soule :The Scrowle & Scheme's

The full Interpreter : But how's conceald.

Who through Ænigmaes lookes, is so Reveal'd."

Seventeenth-century alchemical publishers and authors put just as many speculative knowledge-making prompts in their texts as experimental directives, sometimes excluding the latter altogether. As can be gleaned from Ashmole's instructive poem above, seventeenth-century readers were encouraged to unpack hermetically sealed knowledge hidden in alchemical compendia. Early modern readers were not simply reading the text on the page, but materially manipulating texts for individual speculative purposes, pushing the initial knowledge presented to the reader far beyond the text that is printed on the page.[272]

Conclusion

This chapter asserts that all speculative evidence, including doodles, cross-references, and pseudonomia, are a vital part of seventeenth-century alchemical knowledge-creation. Many prominent alchemical scholars have argued the case for alchemy as a legitimate investigation into nature during the early modern period, one which informed canonical figures within the empirical history of science and influenced the chemistry and physics that are used today.[273] However, this teleological alchemical revival has largely ignored the non-experimental aspects of alchemical knowledge-making. Not only were practical and esoteric alchemical investigations into nature used in tandem, but the latter is a valid form of alchemical knowledge-making and equally important to the story of the early modern alchemy.

[272] Sherman, *Used Books*, xii.
[273] See Lawrence Principe's "Alchemy Restored" in *Isis* 102, no. 2.

Some texts are better suited than others for alchemical material speculation. Even today, modern notetaking serves to remind us to return to a particular passage or a new thought that the information on the page instigated. These speculative reading techniques are most prevalent in texts used for learning processes, such as academic coursework or a book intended for group discussion. Similarly, evidence of material speculation is clearly used in tandem with alchemical compendia that encourage the reader to apply the information in the book to their alchemical knowledge-building. The practice of working through scientific concepts on the hand-press page was accepted as theoretical and logical, complete without necessitating experimentation. Virtual representation of scientific theories and instruments mediated the space between practical or tacit knowledge and theoretical arguments about the natural world.[274] However, knowledge-production of the hermetic science of alchemy can also, if not more so, be enacted on the material of the text by the reader. It has been shown that the hermetically coded information begs the reader to interpret, deduce, and create in the margins of the text.

Finally, this chapter will conclude by examining how material speculation builds on manuscript traditions and how manuscript examples can aid in connecting alchemical print and manuscript cultures as well as alchemical concepts that are both esoteric and practical in nature. In this unique way, material speculation connects these two realms of alchemy by allowing the reader to virtually enact alchemical experimentation and solve the riddles of hermetic language. Manicules, *Nota Bene*, and brackets are all examples of manuscript devices for drawing attention to particular parts of a text.[275]

[274] Büttner, Damerow, Renn, and Schemmel, "The Challenging Images of Artillery," 3.
[275] Sherman, *John Dee*, 81.

A fascinating example of brackets-turned-doodles can be found in the Othmer Library's Petrus Bonus manuscript (MS 3). An owner of this text has made markings next to passages, and then obscured these markings by turning them into playful faces to cover their annotative marks (Figure 29). John Dee was also known to draw these 'face brackets' exclusively in his alchemical manuscripts.[276] These tools continue into hand-press culture, sometimes in their original forms, and in other examples they have morphed into print culture versions or are individual to the reader (such as the case with the backwards 'R').

While completing research for this chapter, two manuscripts stood out as fascinating examples of material speculation, both pertaining to alchemy and created in the seventeenth century. One is held by the Lilly Library titled, *Rosarium Philosophicum*, and the other is at the Beinecke Library (Mellon MS 110). *Rosarium Philosophicum* was a popular medieval alchemical tract and it is unsurprising that someone would create a manuscript copy for themselves. Arthur Dee included multiple references to this text in his *Fasciculus Chemicus*. What is eye-catching about this manuscript is the illustrations in red pencil throughout depicting esoteric alchemical processes. They are clearly done in an amateur style yet accomplish the goal of communicating spiritual transmutation that is symbolic of empirical creation. These alchemical images of transmutation are made by combining images of practical experimentation (furnaces, alembics, crucibles) with esoteric metaphors for the processes. They are popular alchemical tropes such as dragons, suns with faces, and mermen drinking the elixir of life from a fountain (Figure 30).

[276] Sherman, *John Dee*, 88.

The Mellon 110 manuscript also combines esoteric and practical images of alchemy, but in this case the hermetic metaphors that symbolize the alchemical processes take place within alembics and the individual stages of transmutation is described above the instrument within a banderol (Figure 31). By combining practical alchemical experimentation with mystical symbolism for the purification of the natural world, these examples of illustrated alchemical manuscripts bring together the dual nature of alchemy as an esoteric science. This validates the speculative process of knowledge-making outside of practical laboratory experimentation. When readers speculate in the margins and interact with a text to create new alchemical knowledge using visual and speculative material evidence, they are contributing to understanding and achieving alchemical transmutation of knowledge and sharing it with future readers. The manuscript examples show us it is possible to complete a virtual alchemical experiment within the confines of one's own library.

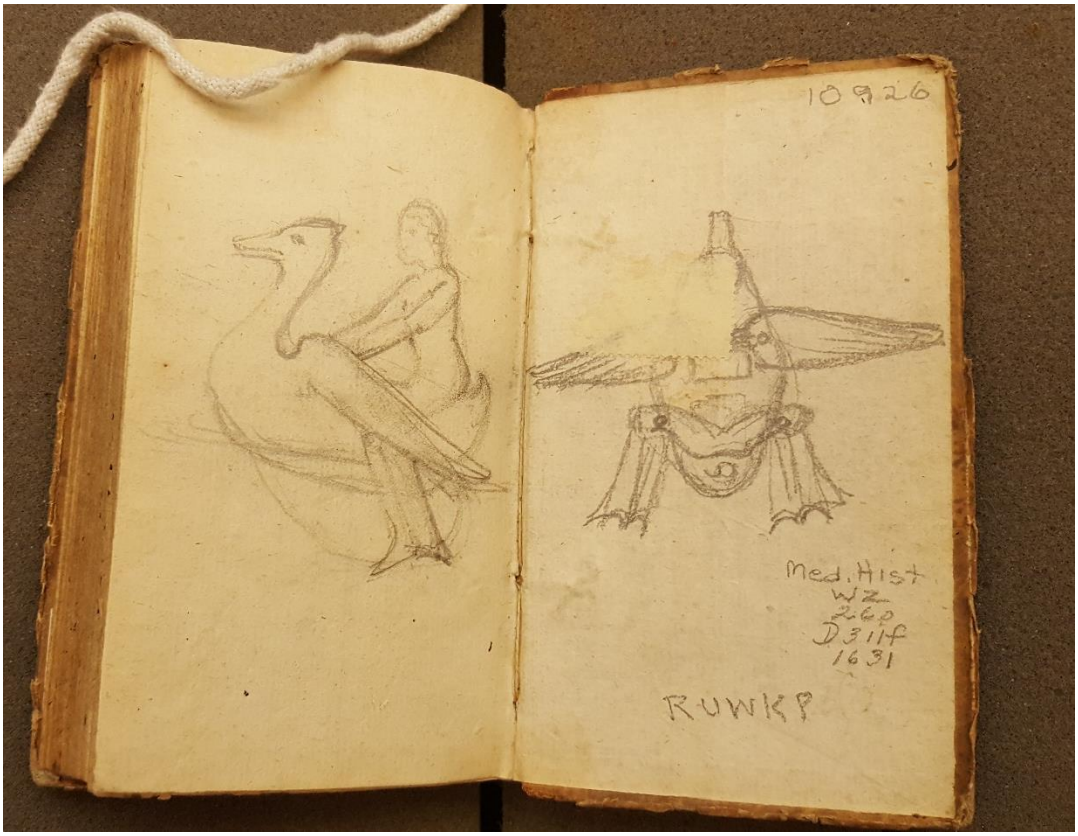


Figure 20 Bird Doodle, National Library of Medicine

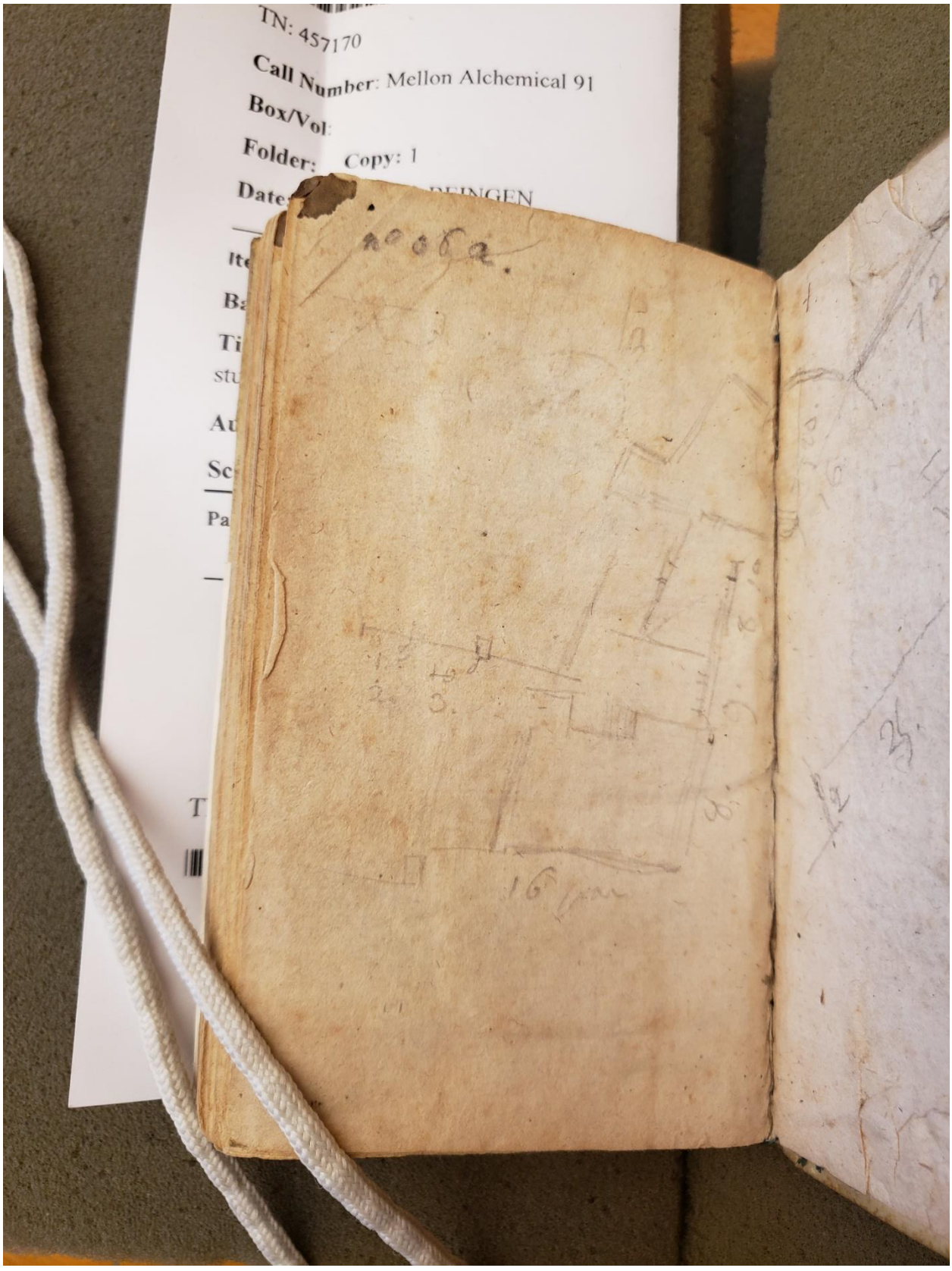
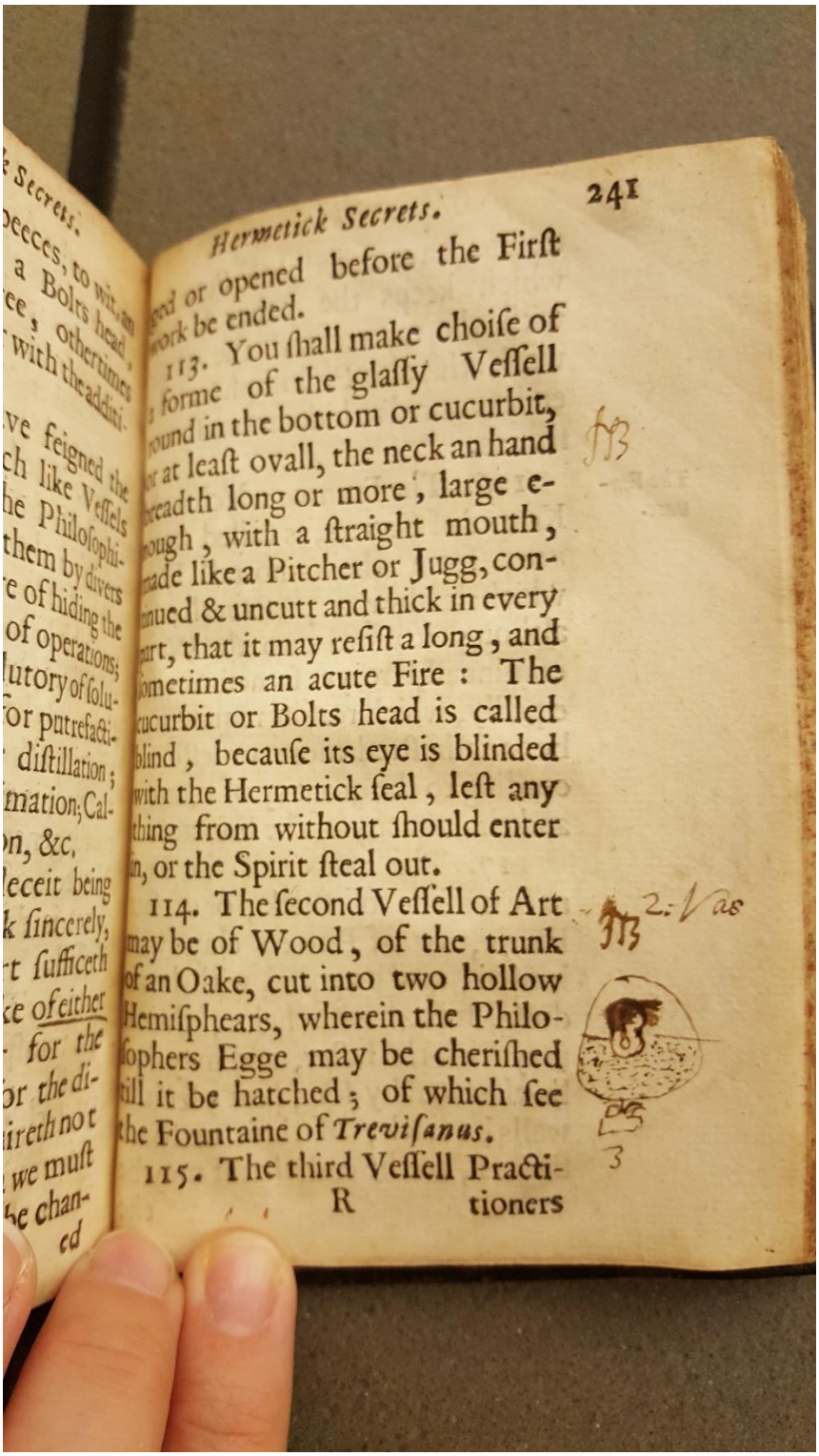


Figure 21 Architectural Sketch, Beinecke Library



Hermetick Secrets. 241

ood or opened before the First work be ended.

113. You ſhall make choiſe of a forme of the glaſſy Veſſell round in the bottom or cucurbit, or at leaſt ovall, the neck an hand breadth long or more, large enough, with a ſtraight mouth, made like a Pitcher or Jugg, continued & uncutt and thick in every part, that it may reſiſt a long, and ſometimes an acute Fire: The cucurbit or Bolts head is called blind, becauſe its eye is blinded with the Hermetick ſeal, leſt any thing from without ſhould enter in, or the Spirit ſteal out.

114. The ſecond Veſſell of Art may be of Wood, of the trunk of an Oake, cut into two hollow Hemiſphears, wherein the Philoſophers Egge may be cheriſhed till it be hatched; of which ſee the Fountaine of *Treviſanus*.

115. The third Veſſell Practi-

R tioners

Figure 22 Experimental Drawing, National Library of Medicine

Figure 23 Drawings of Practical Alchemy, Wellcome Library

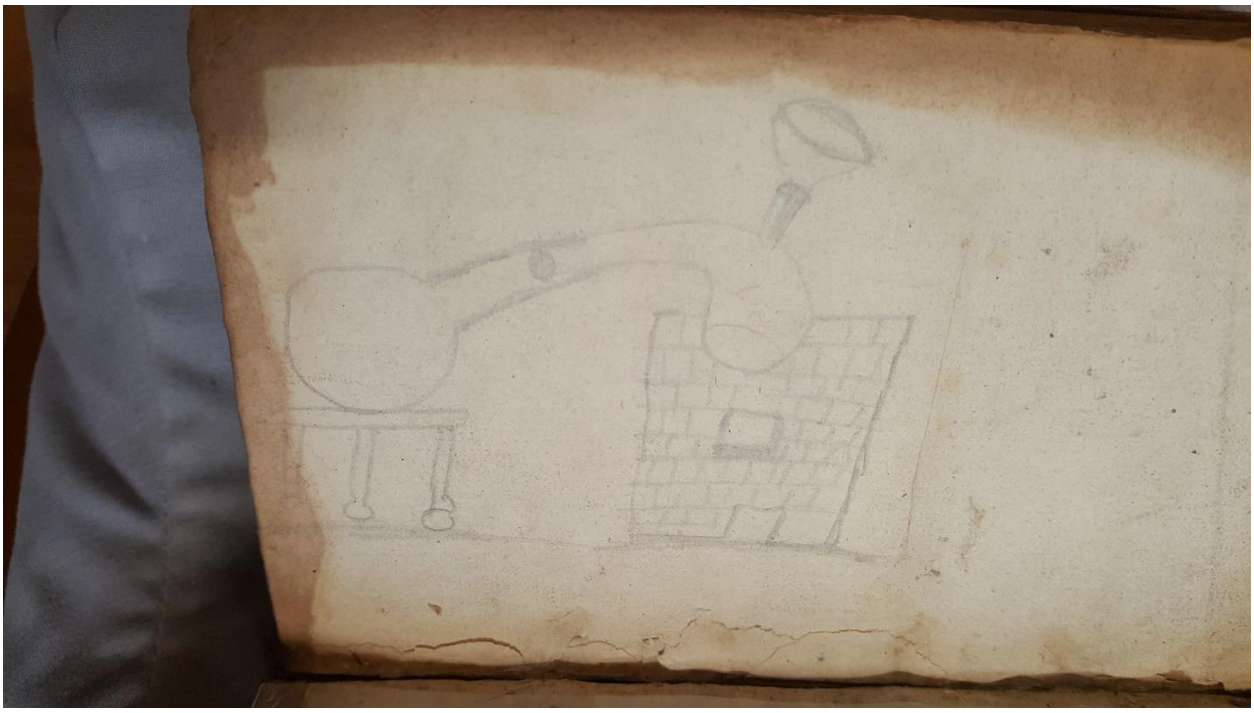


Figure 24 Drawing of a Furnace, Othmer Library

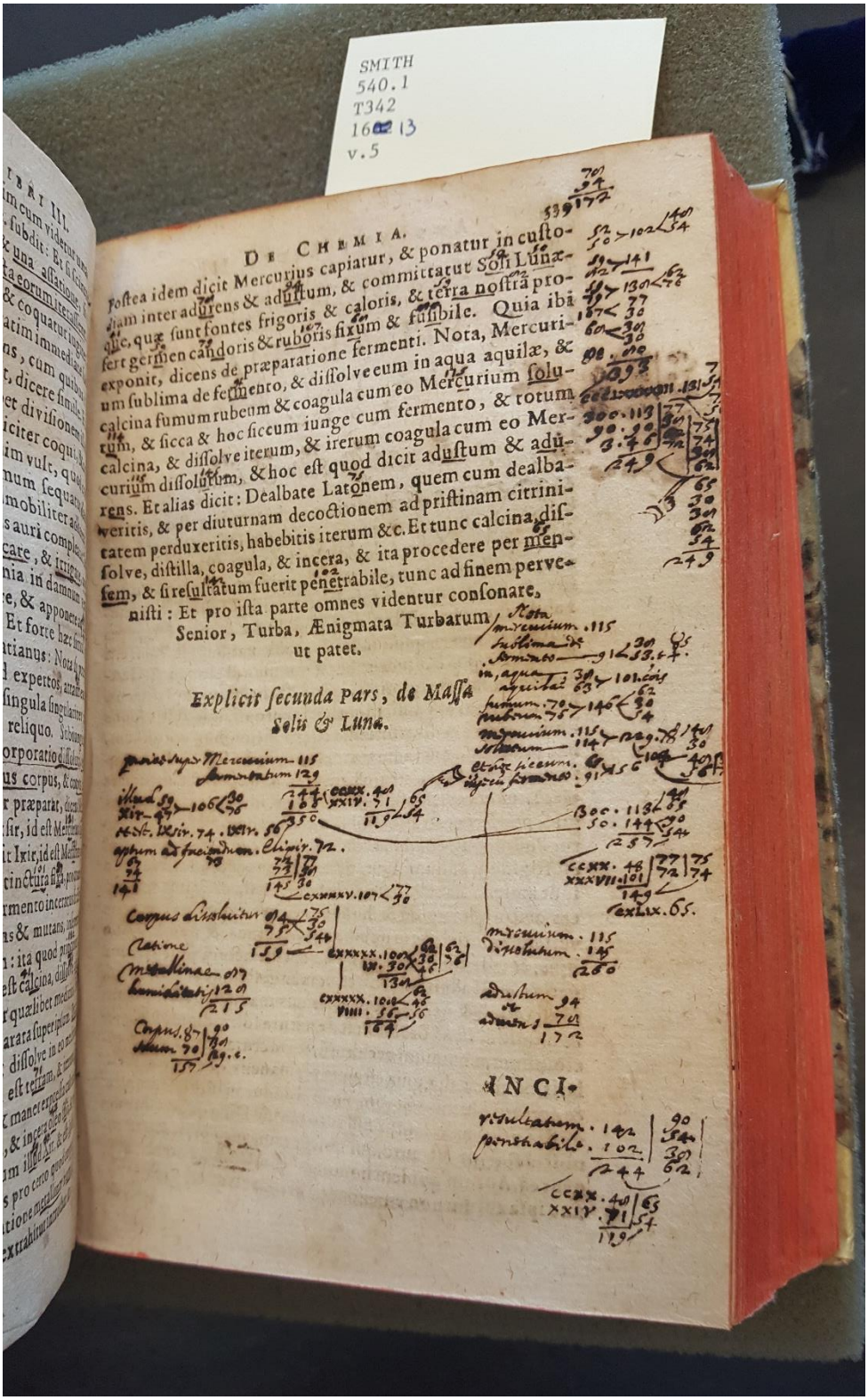
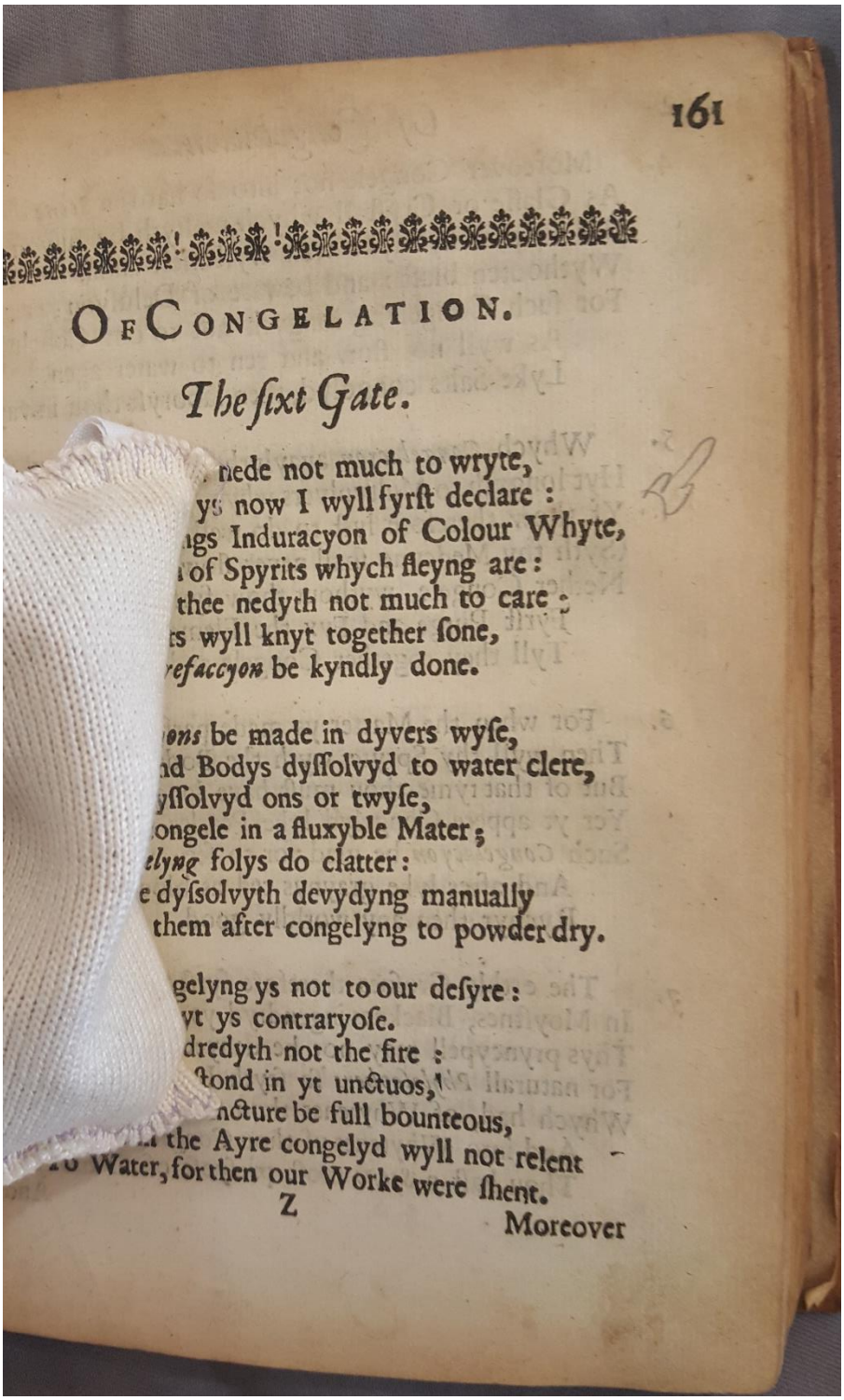


Figure 25 Cabalistic Speculation, Kislak Center



161

OF CONGELATION.

The ſixt Gate.

. nede not much to wryte,
ys now I wyll fyrſt declare :
ıgs Induracyon of Colour Whyte,
ı of Spyrits whych fleyng are :
thee nedyth not much to care ;
ts wyll knyt together ſone,
refaccyon be kyndly done.

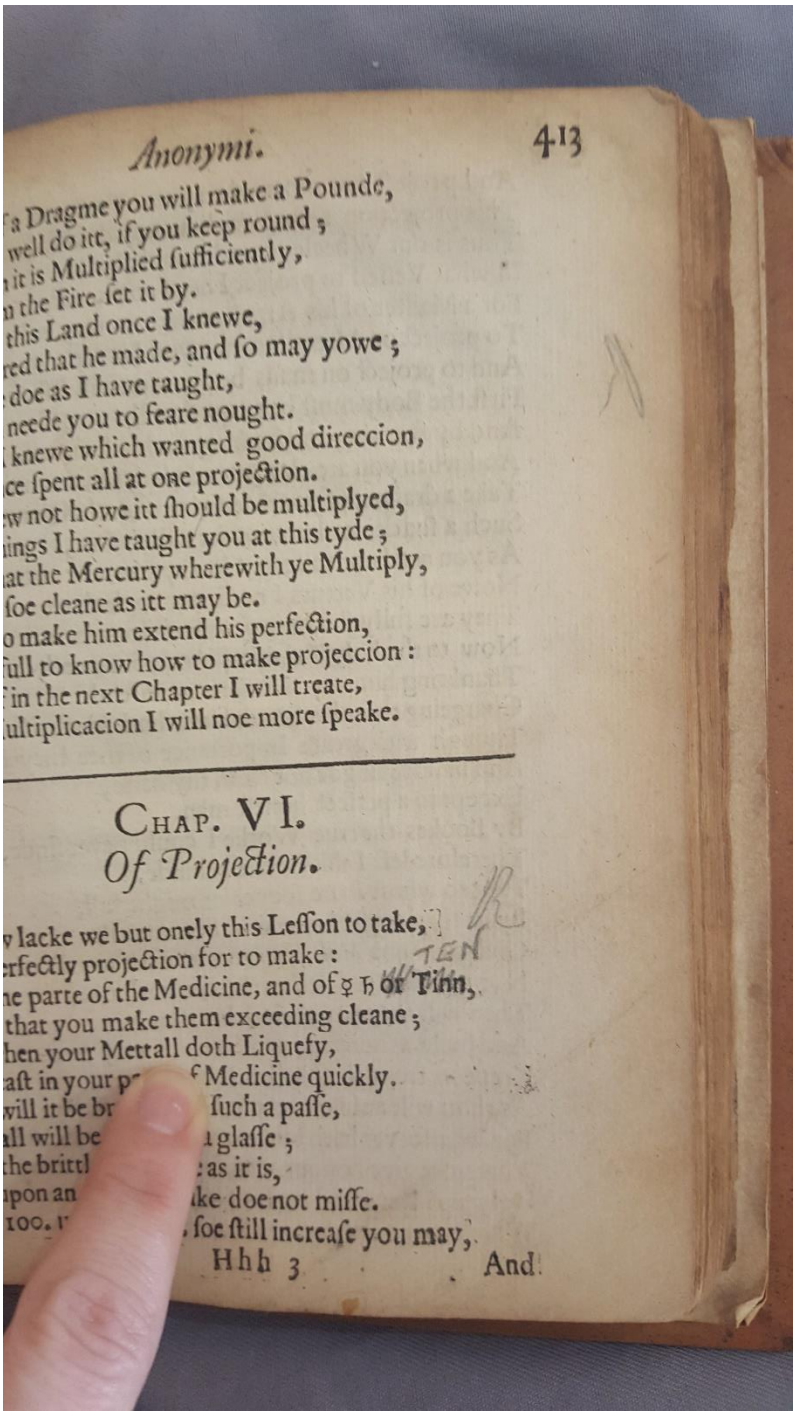
ons be made in dyvers wyſe,
ıd Bodys dyſſolvyd to water clere,
yſſolvyd ons or twyſe,
ongele in a fluxyble Mater ;
elyng folys do clatter :
e dyſſolvyth devydyng manually
them after congelyng to powder dry.

gelyng ys not to our deſyre :
yt ys contraryoſe.
dredyth not the fire :
ſtond in yt unctuos,
nƈture be full bounteous,
the Ayre congelyd wyll not relent
Water, for then our Worke were ſhent.

Z

Moreover

Figure 26 Outward Indicating Manicule, Othmer Library



Anonymi. 413

a Dragme you will make a Pounde,
well do itt, if you keep round;
it is Multiplied ſufficiently,
the Fire ſet it by.
this Land once I knewe,
red that he made, and ſo may yowe;
doe as I have taught,
neede you to feare nought.
knewe which wanted good direccion,
ce ſpent all at one projection.
w not howe itt ſhould be multiplyed,
ings I have taught you at this tyde;
at the Mercury wherewith ye Multiply,
ſoe cleane as itt may be.
o make him extend his perfection,
ull to know how to make projeccion:
in the next Chapter I will treate,
ultiplicacion I will noe more ſpeake.

Chap. VI.
Of Projection.

y lacke we but onely this Leſſon to take,
rfectly projection for to make:
he parte of the Medicine, and of ☿ ♄ or Tinn,
that you make them exceeding cleane;
hen your Mettall doth Liquefy,
aſt in your p[illegible] Medicine quickly.
will it be br[illegible] ſuch a paſſe,
ll will be [illegible] glaſſe;
the britt[illegible] as it is,
pon an[illegible]ke doe not miſſe.
100. [illegible] ſoe ſtill increaſe you may,

Hhh 3 And

Figure 27 Mirror Image 'R' Marginalia, Othmer Library

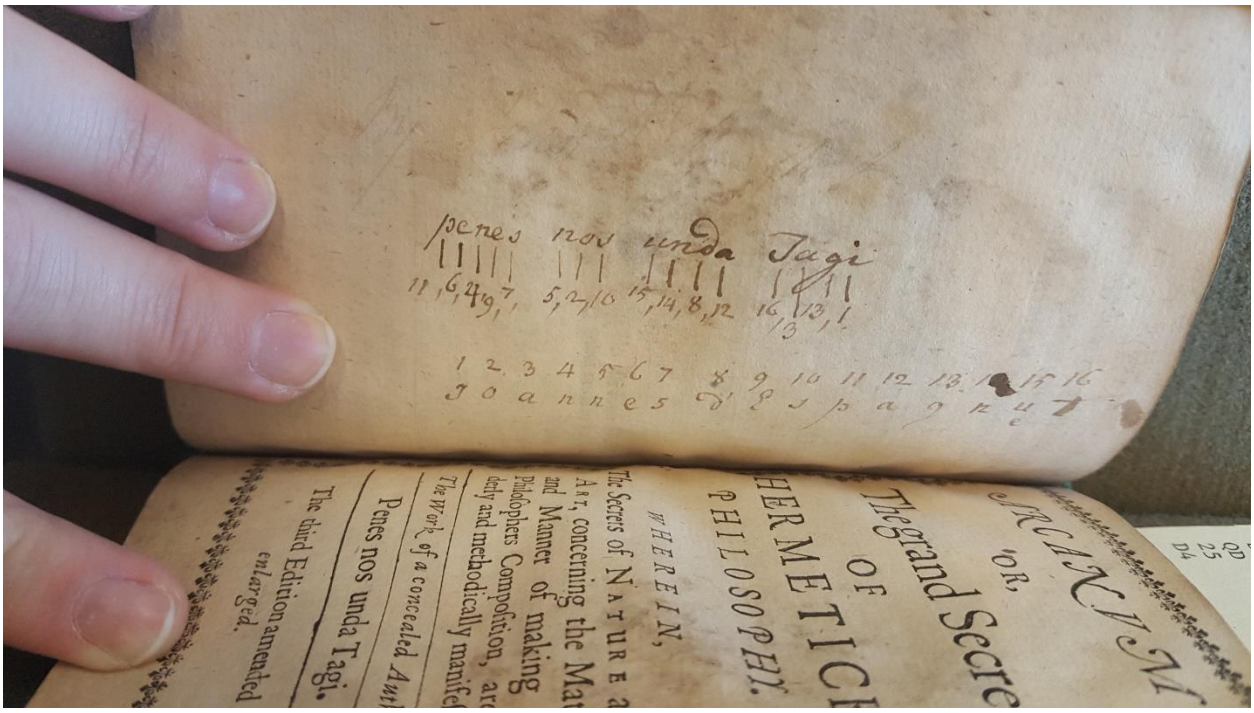


Figure 28 Anagram Speculation, Kislak Center

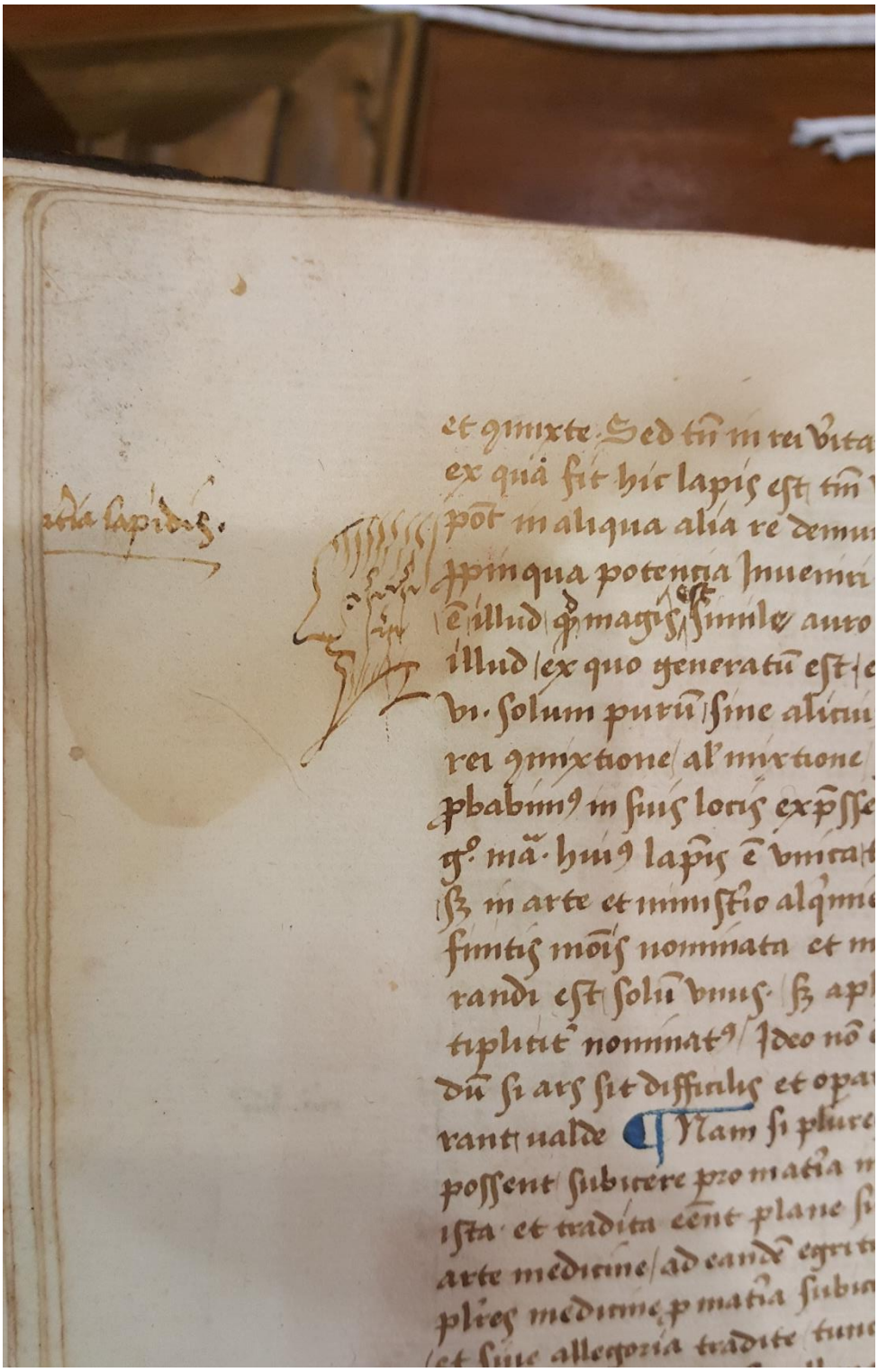


Figure 29 Face Bracket, Othmer Library

Figure 30 Mermen at the Fountain, Lilly Library

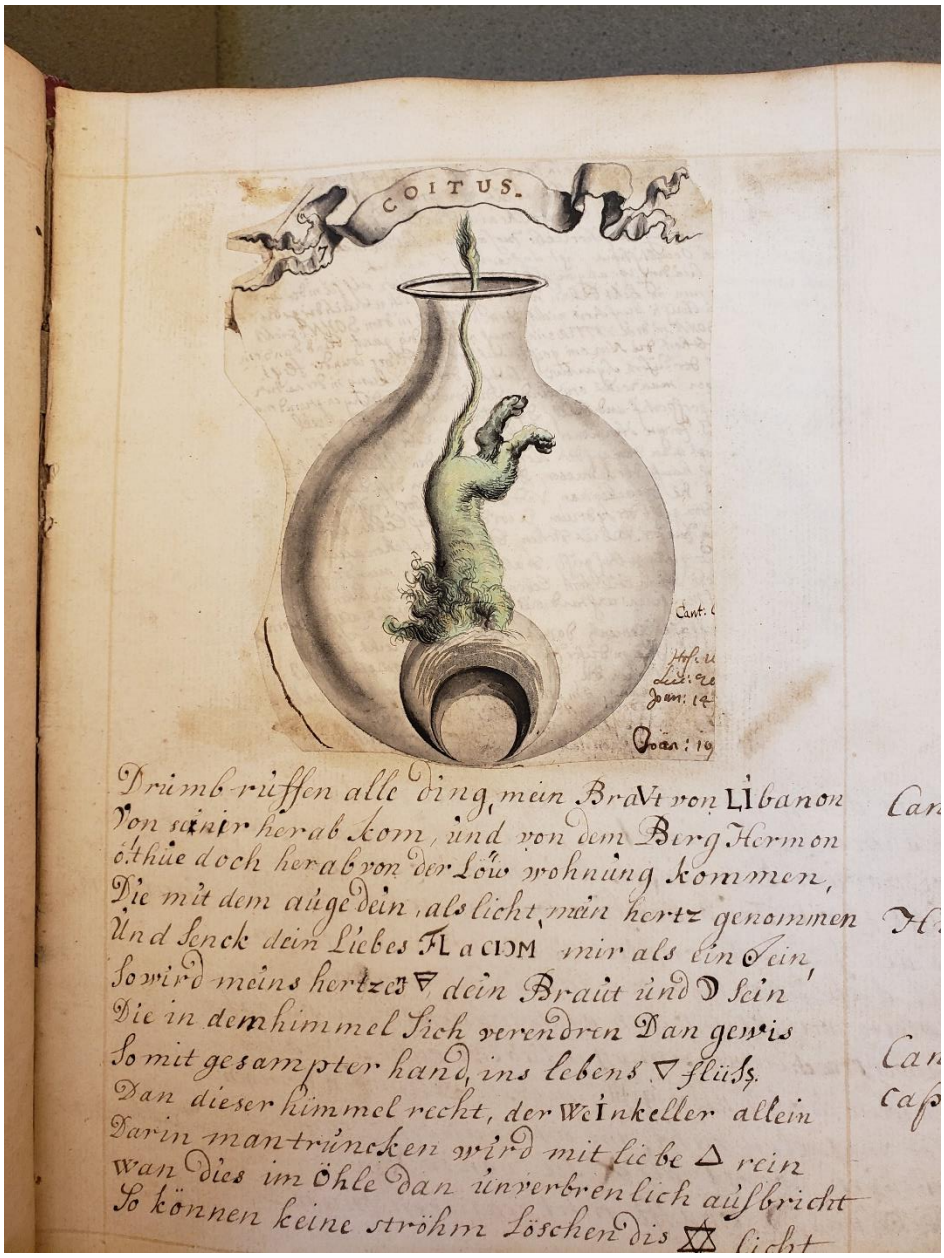


Figure 31 Esoteric Alembic, Beinecke Library

5 THE EPILOGUE

This project has centered around the seventeenth-century life of a text, *Fasciculus Chemicus*. Arthur Dee describes his 1631 hand-press text with the following passage, "I pickt out some no less pleasant then wholesome Flowers, which I have made up into a *Fasciculus*, for the Ease and Benefit of Young Students, in this Art…"[277] Similarly, Elias Ashmole describes his 1650 English edition as "the choisest Flowers, growing in the Hermetic Gardens, sorted and bound up in one compleat and lovely Posie."[278]. Both Dee and Ashmole compare the act of curating alchemical tracts to create new knowledge to choosing individual flowers and bringing them together as a cohesive bouquet. The Latin term *Fasciculus* can be translated to "a small bundle", and is found in the titles of over 2,000 seventeenth-century hand-press texts, some literally on the topic of horticulture and others, like Arthur Dee's book, related to medicine.[279] It is interesting that Ashmole chose a less flowery, literal translation for his English title, *Chymical Collections*, perhaps to reflect the mid-seventeenth century trend toward chymistry. To conclude, this final chapter will provide an epilogue to the seventeenth-century production of *Fasciculus Chemicus* and will use this text to explore two alchemical textual issues: vernacularization and curation of information.

These two phenomena were connected to one another, particularly during the mid-seventeenth century. Vernacularization oftentimes caused confusion, especially with scientific and esoteric texts that were written with specific alchemical terminology, which became lost in translation. Reference texts that aimed to curate knowledge were an attempt to organize an

[277] Dee, *Fasciculus Chemicus*, English edition, a3v.
[278] Dee, *Fasciculus Chemicus*, English edition, **r.
[279] This is gleaned from a WorldCat search for "Fascicul*" between the years 1600 to 1700.

overwhelming amount of information. In the mid-seventeenth century the alchemical paradox of obfuscating secret knowledge and making it public through vernacularization reached its apex, resulting in an influx of alchemical knowledge to a larger lay readership for whom this information necessitated organization.[280] Hand-press reference books were frequently met with complaints from readers who wanted a better system for curating knowledge. As Latin was replaced by vernaculars at a higher rate during the second half of the seventeenth century, particularly in England, readers turned to scribal culture to answer their hand-press needs.[281]

Alchemists working during the sixteenth century utilized early versions of alchemical compendia available from continental publishers. John Dee referred to hand-press volumes such as Petreius's *De alchimia* (1541) and the first edition of *De Alchimia opuscula complura veterum philosophorum* (1550) from Frankfurt printer Cyriacus Jacob. However, these lacked many authorial English alchemical authors such as Ripley and Norton, who were available exclusively in manuscript.[282] Elias Ashmole responded to this dearth in printed English alchemical tracts by championing English alchemy, vernacularization, and curation in his seventeenth-century publications. Ashmole pushes this to an extreme by creating *Theatrum Chemicum Britannicum* as an example of English exceptionalism.

Vernacularization of Alchemical Knowledge

The issues inherent in seventeenth-century scientific vernacularization were not new, however, the hermetic nature of alchemical knowledge made popularizing it much more subversive. In the sixteenth century as alchemy reached a broader lay audience (in part due to

[280] Kassell, "Secrets Revealed," 61.
[281] Blair, Too Much to Know, 9.
[282] Rampling, *The Experimental Fire*, Chapter 6.

hand-press technology) there was a growing demand for vernacular alchemical texts.[283] The two decades between 1550 and 1570 saw a jump in vernacular alchemical translation, as English versions of canonical medieval tracts became available to a new audience.[284] A century later there was another spike in English printed alchemical texts. Between the decades of 1640 and 1650 hand-press production of alchemical texts by London printers had increased tenfold, and by 1660, 198 volumes of 320 alchemical tracts had been published in English.[285]

Science, as a human activity, has a language unto itself that is necessarily formed in the dominant philosophical language of the period in which the concepts were conceived. Consequently, the scientific terms become canonized within the language in which they are first presented, becoming difficult, if not impossible, to translate into a vernacular tongue.[286] Historically, languages of natural philosophy were not vernacular.[287] For example, during the Roman era philosophical concepts were communicated in their original Greek tongue.[288] Early modern natural philosophy was textually communicated in Latin until Europeans made a conscious decision to vernacularize it, showing how national identity plays a key role in vernacularization.[289]

Scientific languages are not born but created, and must have the ability to contain and explain the scientific phenomena they describe.[290] This is the enormous feat attempted by Elias

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[283] Rampling, *The Experimental Fire*, Chapter 6.
[284] Rampling, *The Experimental Fire*, Chapter 6.
[285] Kassell, "Secrets Revealed," 61-62.
[286] Gordin, *Scientific Babel*, 4.
[287] The general exception to this is the Golden Age of Islam in which multitudes of scientific texts were translated from Greek into Arabic or written originally in Arabic. While some scholars (see DP Walker) cite Ficino's translating ancient Greek texts directly into Latin as a marker of western renaissance natural philosophy, there is much evidence of later Renaissance scholars engaging with the Arabic texts themselves, especially in alchemy with authors such as Jabir.
[288] Gordin, *Scientific Babel*, 29.
[289] Gordin, *Scientific Babel*, 5.
[290] Gordin, *Scientific Babel*, 29.

Ashmole and his contemporaries who translated alchemical tracts into English during the vernacularization spike of the mid-seventeenth century. Ashmole was an antiquarian and promoted a type of Anglophone alchemy that traced its roots back to the mythologies of Merlin and King Arthur. Ashmole's relationship to Arthur Dee (named by John Dee in honor of the famed medieval English king) was facilitated by their mutual friend Sir Thomas Browne.

Arthur Dee lived to see his hand-press text, *Fasciculus Chemicus*, translated into English by Elias Ashmole in 1650. However, he did not adopt the mid-century fervor for accessibility and Anglophone pride that accompanied English vernacularization. Ashmole reached out to Dee on January 23 1650 at the last moment before the English edition went to press, claiming that he was previously unable to figure out how to reach him and inquired of his precise relationship to John Dee, "…might I also know what relation you had to [John Dee], or what else you think fit for me to say."[291] Ashmole was seeking Dee's blessing for his translation, but preemptively excused himself that he would anger the printer if he held off on the English edition to wait for Dee's response. Surely Ashmole was not pleased by Arthur Dee's less than enthusiastic reply one week later,

> "[I] am sory that you or any man should take tha paynes to translat any booke of that nature into English for the arte ys vilifyed to much allready by schoalrs that dayly deride yt. In regard they are ignorant of the principles; how then can yt any way be advanced by the vulgar."

[291] Josten, *Elias Ashmole*, 2:503.

He signed his letter to Ashmole with a confession of authorship.[292] Ashmole responded to Arthur Dee's letter of dissent and defended his work of vernacularization in the prologue to his English edition of *Fasciculus Chemicus*. Following a short biography of Dee, Ashmole writes "It is no disparagement to the Subject that it appears in an English dress, no more then it was when habited in Greek, Latin, Arabick, &c. among the ancient Grecians, Romans, and Arabians, for to each of them it was their vulgar Tongue…"[293]

However, Arthur Dee's late-in-life strident anti-vernacular stance is somewhat paradoxical, when considered in the context of his earlier manuscripts. As a student Dee translated *The Golden Rotacion* from French into English describing it on the title page as "Translated out of the Frenche, Written by an Anonymus. And freely communicated, to the benefit of all true Lovers of Philosophie."[294] Additionally, Arthur Dee references and clearly reveres Middle English sources, particularly George Ripley.[295] Perhaps Arthur Dee's Latin *Fasciculus Chemicus* would have been more widely received had he been working fifty years earlier. Dee clung to traditional alchemical knowledge networks and courtly patronage as well as insisted on Latin as the alchemical language. Elias Ashmole thrust Dee's work into the world of mid-seventeenth century chymistry with his vernacularization of *Fasciculus Chemicus*, albeit without Dee's support or enthusiasm.

Today, there are almost twice as many extant copies of the 1650 English *Chymical Collections* than Dee's 1631 Latin *Fasciculus Chemicus*, and the English copies are filled with much more marginalia and other forms of material speculation than the Latin ones. This

[292] Josten, *Elias Ashmole*, 2:505.
[293] Ashmole, Translator's Prologue to *Fasciculus Chemicus*, A3v.
[294] Sloane 1881.
[295] See Chapter 3.

indicates that seventeenth-century readers and collectors used and reused the English copies more intently and in more nuanced ways than the extant examples of the Latin *Fasciculus Chemicus*. The copy of the English edition held by Harvard University (GEN 24226.34.5*) is filled with marginalia in both English and Latin. Similarly, Ashmole's own annotated copy of his English edition has marginalia scribed in Hebrew and Latin.[296] These learned languages continued to be used for scientific speculation during the mid-seventeenth century's turn toward vernacularization.

This epilogue examines mid-seventeenth-century examples of English vernacularization in order to shed light on the phenomena of Anglicizing alchemical information during this period. To that end, Ashmole's efforts to grapple with issues of vernacularizing hermetic knowledge in the prologue to his translation are not unique. There are numerous other examples of translators and publishers reasoning and defending their alchemical translations. Elias Ashmole was directly mentioned in some widely circulated examples of English vernacularization, illustrating his contemporary influence. William Cooper, the author of *A catalogue of chymicall books* (1688) in which he recorded details of his personal collection of 422 English books (*Fasciculus Chemicus* included), [297] dedicated the Author's Epistle of his 1673 *A Philosophicall Epitaph in Hierogliphicall Figures* to "the Courteous and Well minded Reader", "the Honourable Robert Boyl, Esq Eminently Noble & Accomplisht.", and "To His Worthy, and much Honoured Friend, Elias Ashmole Esq One of the Kings Majesties Heraulds at Arms, and Comptroller of the Excises through all England". Another mid-seventeenth century alchemical tract dedicated to Ashmole is the 1656 English edition of Michael Maier's *Themis*

[296] MS Ashmole 1664, fol. 193.
[297] Kassell, "Secrets Revealed," 61-62.

Aurea: the laws of the fraternity of the Rosie Crosse. "To the most excellently Accomplish't, The onely Philosopher in the present age: The Honoured, Noble, Learned, ELIAS ASHMOLE, Esq." is signed "your servants" followed by anonymous initials of the translators.[298]

Some translators of alchemical tracts cite practical reasons for their mid-seventeenth century English editions. Eirenæus Orandus dedicated his 1624 translation of Nicholas Flammel's *Exposition of the Hieroglyphicall Figures* to a woman, claiming that women could not read Latin.

> "To The Most excellently accomplish Lady, Madame:… I have caused theses little Bookes to bee published in our vulgar English, customs excusing the most of your sexe from the knowledge of the learned Tongues, in which Cabinets, these secrets are ordinarily locked up, though there want not examples of many women, who, by the impartiall grace of God, have attained to the thing it selfe."[299]

In another dedicatory epistle, William Lilly makes the case that he translated and published Guido Bonatus' *Anima Astrologiae* into English in 1676 because the large Latin books were too expensive for some.

> "…they have hitherto remained in the Latin Tongue, with the rest of the works of those Authors in Large Volumes, difficult to be got, and too chargable for many to buy, we there-upon Recommended them to a Friend to be translated by themselves, which he has Judiciously performed in plain Significant Language…"[300]

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[298] Maier, *Themis Aurea,* A2r.
[299] Flammel, *His Exposition of the Hieroglyphicall Figures,* preface.
[300] Bonatus, *Anima Astrologiae,* preface.

The anonymous J.W. laments that "It is one of the greatest unhappinesses that doth accompany Mankind, that there is such a Babell of Languages, that every Language is not understood in every place…" in his 1671 English translation of Basil Valentine's *Last Will and Testament,* which was "never before in English".[301] Jean Beguin states simply in his dedication 'to the reader' that he translated and published his own *Tyrocinium Chymicum* in 1669 because some people do not read Latin well. "I offer this Little work… plainly cloathed in an English Habit…as a necessary auxiliary to Pupils… perhaps for want of Expert knowledge of the Latin Tongue"[302] All of these practical reasons for English vernacularization boil down to issues of accessibility. The act of alchemical vernacularization implicitly makes esoteric alchemical information available to a broader English-speaking audience.

However, mid-seventeenth century English vernacularization was about more than just accessibility to alchemical knowledge. There are distinct nationalistic undertones present in many of the English translations of these tracts. The second English edition of Basil Valentine's *Triumphal Chariot of Antimony* states that it has been published in English for a second time in 1678 so that "… our Ingenious Country Men, intent on the Knowledge of Natural things, might in their own native Language find whasoever is needful and necessary…without being necessitated to seek foreign Aids".[303] The anonymous J.F. M.D. simultaneously lauds the English nation while lamenting the abundance of printed texts in the prefatory material to the 1650 English edition of Sendivogius' *A New Light of Alchymie*,

[301] Valentine, *Last Will and Testament*, A2v.
[302] Beguin, *Tyrocinium Chymicum*, b.
[303] Valentine, *Triumphal Chariot of Antimony*, A3v.

> "…only I was willing for the English nations sake, whose spirits are much drawn forth after knowledge, to translate them into the English tongue. I did not doe it to multiply books, (for there are too many books already; and the multitude of them is the greatest cause of our ignorance, and in them is a great vanity)"[304]

William Lilly added the horoscopes of English Kings and Queens to his 1644 translation of *Englands Propheticall Merline* in order to create an English lineage from Merlin to the English crown. The title page describes the additional horoscopes as well as Merlin's astrological predictions which had come to fruition. His dedicatory epistle to Sir William Wittypoll is explicit of his intentions "For honour of the English Nation, I wish the work had been more absolute and compleat…".[305]

The increase in English vernacular alchemical texts is directly correlated to England's sense of alchemical legacy. The circulation of fifteenth-century adepts such as Ripley and Norton (both are featured prominently in Ashmole's *Theatrum Chemicum Britannicum*) fueled the English alchemical fervor for establishing a long tradition that was autonomous from continental European. Thus, in translating and printing many English alchemical tracts, Elias Ashmole and others succeeded in creating a history of English alchemy.[306] In many ways, *Theatrum Chemicum Britannicum* encapsulates this mid-seventeenth century Anglophone vernacularization. This volume of English alchemical poems translates manuscript to print, Latin to English, and visual aids, including a re-engraved copy of the frontispiece from his English edition of *Fasciculus Chemicus.* This tome of almost 500 pages of alchemical poems was

[304] Sendivogius, *A New Light of Alchymie*, preface.
[305] Lilly, *Englands Propheticall Merline*, 1644.
[306] Rampling, *The Experimental Fire*, Chapter 6.

supposed to be the first of a two-part series, the latter alchemical prose.[307] This is an attempt by Ashmole to not only present the reader with important English alchemical works, but to curate an organize a growing cache of alchemical material.[308]

The Curation of Alchemical Knowledge

Utilizing texts to collect and curate knowledge is one of the oldest means to manage information, and provides access to many authoritative texts in one codex.[309] The hand-press and subsequent influx of printed alchemical material by the mid-seventeenth century played a large factor in defining this particular moment in chymistry. Print caused an explosion of reference works, as they were less expensive to produce than manuscript versions. Many early modern social causes contributed to the collective perception of textual overload, including an overabundance of hand-press texts, limits to human comprehension (memory and time), an abrupt change in quality and quantity of information available.[310] As was previously described, an abundance of English vernacular alchemical texts during the mid-seventeenth century contributed to this cultural anxiety.[311]

In *Too Much To Know*, Ann Blair defines early modern reference books as "large collections of textual material, consisting typically of quotations, examples, or bibliographical references… used in many times and places as a way of facilitating access to a mass of texts

[307] Ashmole, *The Way to Bliss*, preface.
[308] Ashmole's fervor for English alchemy is part of a broader trend towards nationalistic British antiquarianism and natural history during the seventeenth century, which was communicated to and English audience through print. (Yale, *Sociable Knowledge*, introduction.)
[309] Blair, Too Much to Know, 1.
[310] Blair, Too Much to Know, 3.
[311] There was also a religious anxiety during this moment, regarding the belief of the imminent second coming of Christ. This collective religious fervor was connected to the production of mass amounts of information, as it was thought to be a sign of biblical Revelations. (Webster, *The Great Instauration*, 15.)

considered authoritative."[312] Certain seventeenth-century chymical collections clearly fit into Blair's category of 'early modern reference books' such as Lazarus Zetzner's multi-volume compendia *Theatrum Chemicum* (1602-1661) and Elias Ashmole's *Theatrum Chemicum Britannicum* (1652). Additionally, Ashmole translated Arthur Dee's *Fasciculus Chemicus* into English just two years prior to the publication of *Theatrum Chemicum Britannicum*. This period of rapid growth of accessibility of alchemical knowledge necessitated new ways of organizing alchemical tracts and better methods of searching for information within multi-volume compendia.

Seventeenth-century chymical compedia offer the reader the best known texts in their entirety, as opposed to the old method of juxtaposing curated excerpts from known alchemical tracts to create an authorial text. In this way, Arthur Dee's textual approach of 'epitomizing' knowledge differs from Zetzner's 'universalizing' approach. Both are chymical collections, however, they employ two different methods of curating texts for the reader. Zetzner's multi-volume sets serve to provide a variety of audiences (not only adepts) with a comprehensive alchemical reference book. If previous alchemical texts such as *Fasciculus Chemicus* were meant for a select audience and filled with difficult to comprehend esoteric symbolism, seventeenth-century chymical collections gave the reader tools to navigate what was certainly an overwhelming amount of alchemical knowledge.

Efforts to organize mass amounts of knowledge can be seen in scribal culture and were subsequently incorporated into print. For example, reference texts originated from scribal reading notes compiled into a singular volume for ready use.[313] Producers of reference notebooks

[312] Blair, Too Much to Know, 1.
[313] Blair, Too Much to Know, 4.

employed personalized organizational techniques to their texts, as is exemplified by some of the alchemical practitioners and manuscripts that this project has examined. The manuscript at the Wellcome Library featuring a majority of texts from Ashmole's *Theatrum Chemicum Britannicum* (MS 3563) utilizes a table of contents as well as a tabulated alphabetized index written in a cipher code. This manuscript was clearly intended for personal reference, as it would be extremely difficult for anyone other than the complier to use it. It also exemplifies the paradox of simultaneously including finding aids and secret coded language in a text, part of the broader mid-seventeenth century alchemical issue of making hermetic knowledge accessible with vernacularization and curated volumes of tracts.

Tables of contents were important aspects of curating alchemical knowledge, and again were an outgrown of scribal culture. Arthur Dee created one for a manuscript he titled *Treatise on Alchemy* held by the British Library (Sloane 1842) which he organized in alphabetical order. *Theatrum Chemicum*, the continental multi-volume compendia of alchemical tracts published throughout the seventeenth century, provides an excellent case-study on the evolution of alchemical hand-press tables of contents. Starting in the late sixteenth-century into the seventeenth, the conceptualization of the role of the author shifted from mirroring information or growing a branch of knowledge to envisioning authorship as an architectural endeavor. Natural philosophers were imagined as constructing buildings made up of fragments of learning, giving form to symbols of knowledge. Authors were believed capable of physically manifesting a design in their minds that resulted in the building of knowledge. This idea manifested in titles such as "architectural", "scenographic", or, as has been studied in this project, "*Theatrum"*.[314]

[314] Angelini, "Encyclopaedias and Architecture in the Sixteenth Century," 265.

The publication history of *Theatrum Chemicum* is complicated. It began as a three-volume set in its first print-run in 1602 and added one volume to each subsequent edition, complete with six volumes in its final fourth edition (1659-1661). The German printer Lazarus Zetzner is mentioned on the title page of every edition and volume except volume six from the final edition, which was completed after his death by his heirs. Zetzner was conscious of his role as alchemical curator, including a letter to the reader which explains the impetus behind the publication of his compendia to bring together texts "scattered and widely dispersed" to benefit "those who are studious in chemical philosophy". [315] Collecting institutions that own copies of this text frequently have multiple editions, sometimes bound to appear as a set, when in reality the volumes are from different editions. The final edition of *Theatrum Chemicum* contains over 4,000 pages of alchemical knowledge, which definitely would have left readers feeling overwhelmed by the amount of information.

The long and complex publication history of *Theatrum Chemicum* is well suited to illustrate the evolution of seventeenth-century readers' attempts to organize such a large amount of information, as well as the printer's subsequent response. There is evidence in many copies of volumes one through three of readers scribally adding page numbers and tracts to the brief and uncomprehensive list of alchemical tracts in the beginnings of the volumes from the first edition of *Theatrum Chemicum* (Figure 35). While Zetzner never added page numbers or the missing tracts' titles to later editions of volumes one through three, all subsequent volumes (four through six) include these features of textual information management.[316]

[315] Clucas, "John Dee, Alchemy, and Print Culture," 109.
[316] Research for this is based on 43 copies of *Theatrum Chemicum* spanning all four editions from special collections at the Othmer Library, University of Wisconsin-Madison Libraries, the New York Academy of Medicine, and the Kislak Center.

No doubt Ashmole's English *Theatrum Chemicum Britannicum* is his nationalistic response to Zetzner's continental compendia, illustrating how the curation of alchemical knowledge can also be an act of patriotism by the self-proclaimed "English lover of Mercury".[317] While the prefatory material is made up of only a title page and prologue, at the end of the tome are many examples of information management and comprehension aids. This includes a 'Table of Obsolete words', a list of corrections for the 'Table of Obsolete words', a section for 'The several Treatises, with their Authors Names, contained in this Worke' including corresponding page numbers, and corrections to the printed alchemical tracts. While these are not necessarily novel modes of textual organization, that they are included in such a comprehensive manner (especially when compared to *Theatrum Chemicum*) illustrates the emphasis placed by Ashmole on communicating the English titles and names of the alchemical poems comprising this compendium.

Chymical Collection as Baroque Science

Some final thoughts on this project, which has followed a single text as a case-study into larger seventeenth-century alchemical and textual issues, will address what else there is to consider within and beyond the scope of this project. It is quite possible that Arthur Dee's style of publication (Latin, small portable text that encourages practical use, courtly patronage) was perceived as achieving an older, and thus truer, form of alchemical knowledge, as alchemy frequently references ancient knowledge as the highest authority. Regardless of the alchemical reception of the Latin *Fasciculus Chemicus*, the mid-seventeenth century reached the height of alchemical production, ushering in a new stage of empirical chymistry. The terms 'alchemy' and

[317] Described on the title page of *Theatrum Chemicum Britannicum* in Latin as '*Mercuriophilus Anglicus'*.

'chemistry' were synonymous during the seventeenth century (as is exemplified in the titles of texts examined in this dissertation), however, the term 'chymistry' is employed by historians to denote the interchangeability of these terms during this period of transition from natural philosophy to empirical science.[318]

The change in modes of curating alchemical knowledge illustrated by seventeenth-century textual trends from authorial intent to encyclopedic collecting parallels the canonization of chymistry in the realm of experimental science and the university. Elias Ashmole is an example of a figure who successfully mediates both movements, straddling the line between traditional medieval alchemy and early modern experimental science. The Royal Society of London obtained the royal patronage of King Charles II with the reestablishment of the crown in 1660, of which Ashmole was a founding member.[319] Ashmole, a staunch believer in astrology, alchemy, and magic could also navigate the space of experimental chymistry without paradox during this time. This moment in the history of chymistry allows space for both alchemical traditions as well as the experimental science that we recognize as chemistry today.[320]

Finally, this project concludes by asking: in what ways could the scope of the seventeenth-century life of *Fasciculus Chemicus* be broadened? A follow-up question that might be posed is, 'Where do seventeenth-century alchemical compendia fit in the historiographical narrative of baroque science?' *Fasciculus Chemicus* and its seventeenth-century transmutations illustrate the oxymoronic nature of alchemical texts during this period of chymistry. The entire concept of 'baroque science', as put forth by Ofer Gal and Raz Chen-Morris in their 2013 co-

[318] Newman and Principe, "Alchemy vs. Chemistry," 41.
[319] Yates, *The Rosicrucianist Enlightenment*, 253.
[320] Newman, "From Alchemy to 'Chymistry'," 3:499.

authored book *Baroque Science*, is that the term itself encapsulates the paradox of baroque movements. According to Gal and Chen-Morris, the mores of this New (baroque) Science are the creation of tension and the act of inversion, resulting in the mathematization of nature.[321]

An example of this baroque tension provided by Gal and Chen-Morris is the new early modern knowledge of astronomy resulting in the alienation of the terrestrial world.[322] This is exemplified in alchemical texts through the tension of making hermetic information accessible with the hand-press and vernacularization, resulting in the oxymoronic overabundance of secret knowledge. An instance of inversion that encapsulates Baroque Science is that between the natural and artificial.[323] Alchemy is predicated on the artificial creation of naturally occurring materials through chemical transmutation, in other words, by adding a mathematical order to nature.

The creation of *Fasciculus Chemicus* is representative of the inverted baroque, as the means of knowing becomes the object of knowing. Arthur Dee produced his text while living on the fringes of the early modern alchemical community in Moscow by expertly curating alchemical tracts to make up his *Fasciculus*. This resulted in the act of reading, rather than writing or experimentation, becoming the primary performance of knowledge-making. Arthur Dee may have the final word on the 'Baroque Science' of seventeenth-century chymical collections,

> "Deign therefore (ye ingenious Men,) that this my *Fasciculus*, howsoever collected by my Labor, yet by your Authority and Favor, to be presented a more Illustrious Work :

[321] Gal and Chen-Morris, *Baroque Science*, 1-3.
[322] Gal and Chen-Morris, *Baroque Science*, 1.
[323] Gal and Chen-Morris, *Baroque Science*, 3.

whence (by Gods Favor and Permission) they may be able to pick out what is daily so much desired, and sought for, by multitudes."[324]

[324] Dee, *Fasciculus Chemicus*, English edition, a4r.

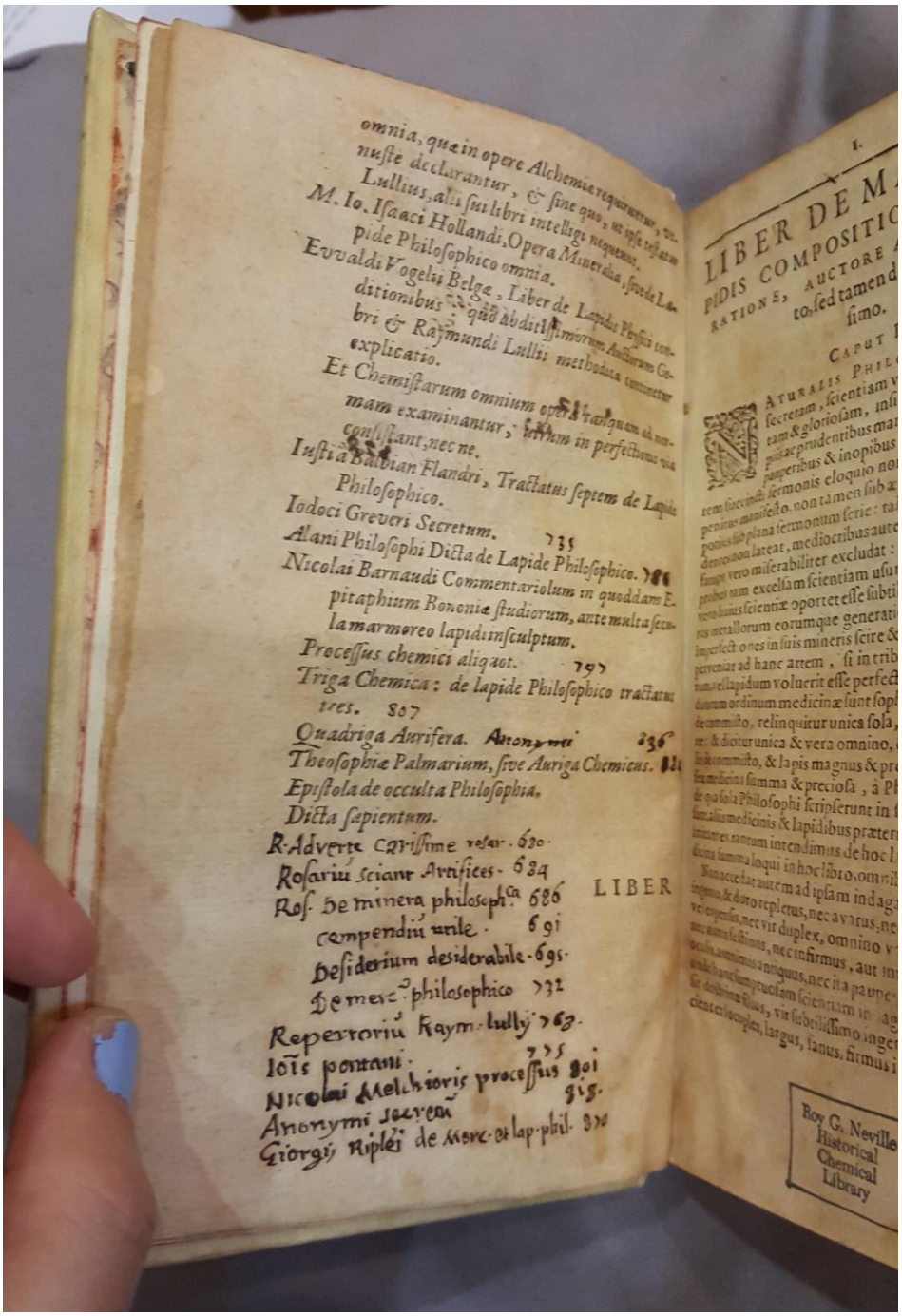

Figure 32 Table of Contents, Othmer Library

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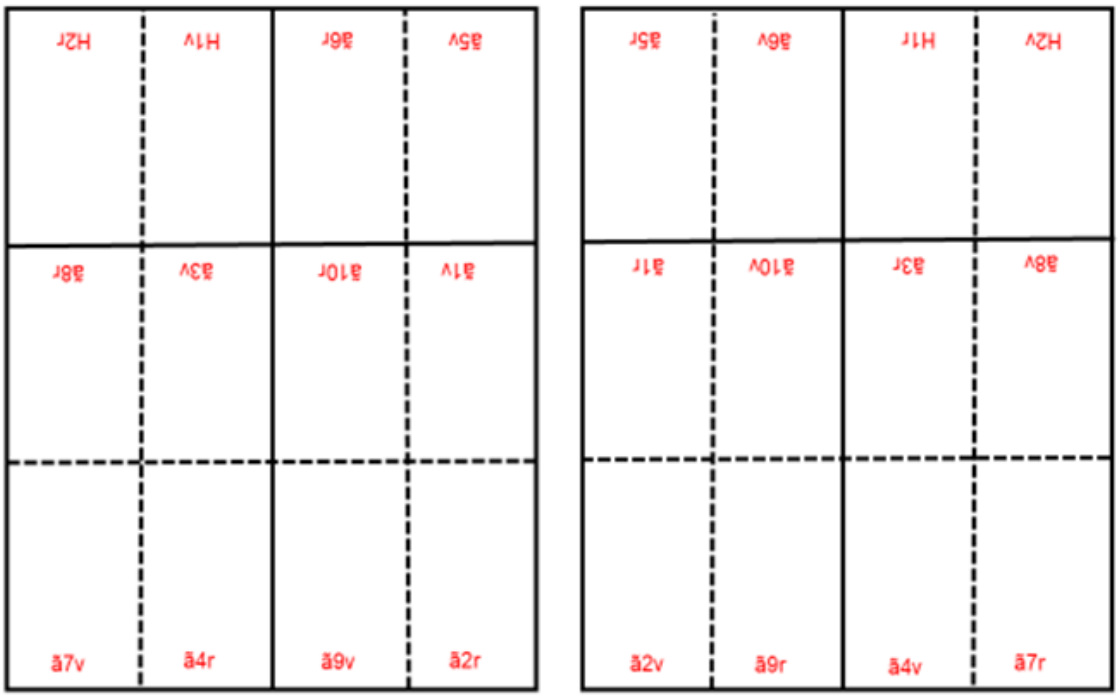
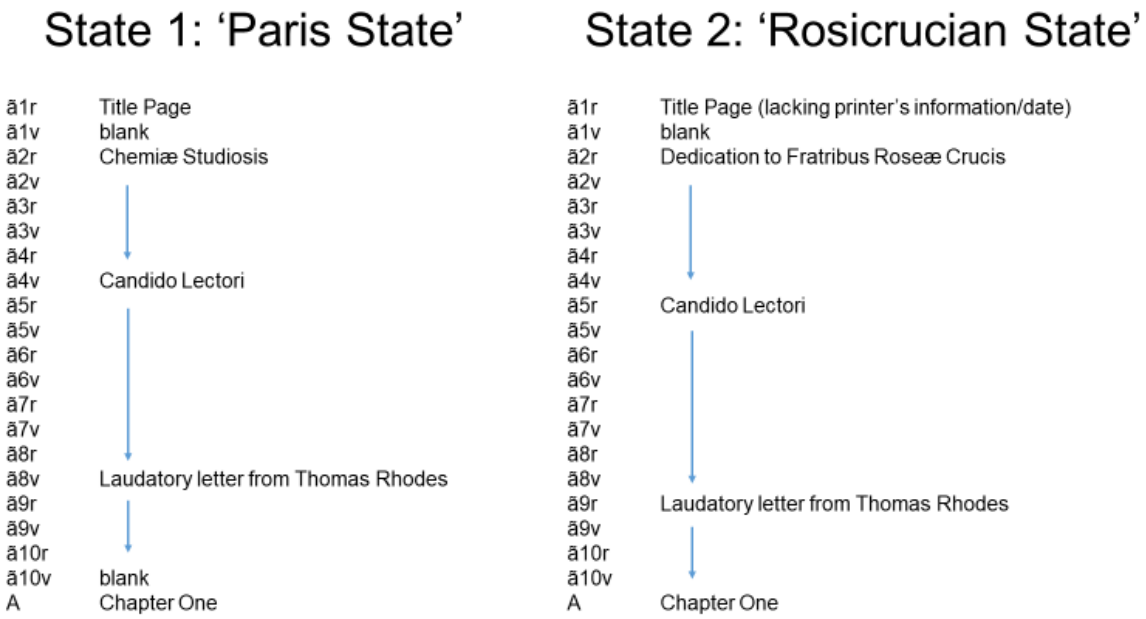
APPENDICES

Appendix A



Appendix B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