

# John Dee's Scrying Magic

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## Introduction

While John Dee (1527–1608 or 1609) was a person who made such huge contributions to the evolution of science and technology as a natural philosopher that he was extolled as the foremost scholar of the Elizabethan era, he devoted the last years of his life to engaging in conversation with angels and spirits through a magical technique known as *scrying*, which enables visions to be had with the use of a crystal ball. His vast records of this devotion were compiled into a book that was published under the title *True & Faithful Relation of What Passed for Many Years Between Dr. John Dee... and Some Spirits* by Meric Casaubon in 1659, exactly half a century after the passing of Dee. This had the effect of casting Dee thereafter in a bad light as it made him out to be a superstitious fanatic.<sup>1</sup> Precisely in what way did Dee consider the relationship between his natural philosophy and angel magic? Informed by this question, we hope to evaluate the techniques of *scrying* in the context of Dee's academic framework and shed light on its methodological significance.

## 1. *Archemastrie* and scrying

John Dee's *The Mathematical Praeface*, which was attached to the English-translated version of *The Elements of Geometry of Euclid of Megara* published in 1570, came to have a huge impact on the evolution of science and technology at the time. A truly broad range of academic fields – including astronomy, music, geography, navigation, architecture, zographie, and optics – were provided with a foundation and accordingly systemized by mathematics. Of particular interest was the study of *archemastrie*, which was placed at the pinnacle of Dee's mathematics. According to Dee, *archemastrie* teaches that “all worthy conclusions by all the Artes Mathematicall purposed, & by true Naturall Philosophie concluded” are, first, brought to “actuall experience sensible” and, second, brought to “the performance of complet Experiences, which of no particular Art, are hable (Formally) to be challenged” (MP, A. iij<sup>v</sup>). According to Clulee, the technical term *archemastrie* itself can be traced back to alchemist Thomas Norton (1532–1584). However, Dee elaborated upon the meaning of this term further and tied it to *Scientia Experimentalis* by Nicolaus Cusanus (1401–1464) and especially by Roger Bacon (1214–1294).<sup>2</sup> Debus, however, argues that the empirical concept spoken of by Bacon and Dee is closer in nuance to “observation” than “the concept of a modern controlled experiment.”<sup>3</sup>

Bacon asserted that experimental science was characterized by three prerogatives or values.<sup>4</sup> The first of these prerogatives is to “investigate by experiment the notable conclusions of all those sciences,” the second is to be “able to give us important truths within the confines of the other sciences, which those sciences can learn in no other way,” and the third is “the secrets of nature,” or in other words, “the knowledge of the future, the past, and the present” and the “wonderful works, by which it forms judgements better than ordinary judicial astrology.” While the last prerogative includes magical experiences, demonic magic for summoning spirits through the use of incantations was repudiated, such that the scope of this prerogative was limited to so-called natural magic.

That the first two of these prerogatives can also be recognized in Dee's *archemastrie* is easy to discern. The third prerogative is inherited in the three "auxiliary sciences helping the work of the Archemaster," which were identified by Dee as sciences assisting in the performance of work by those who have mastered *archemastrie* (MP, A. iij<sup>v</sup>). The first is referred to as *magic* (alnirangiat). Clulee surmised that this word was derived from a reference made to the "science of magic (scientia alnirangiat)" in *On the Division of the Sciences* as written by Ibn Sīnā (980–1037).<sup>5</sup> The word in this context means "a form of natural magic for the manipulation of the hidden virtues of things."<sup>6</sup> The second is referred to as *Ars Sintrillia*. This is a type of scrying, a means of seeing a strange sight through a glittering effect of water and sword produced by placing a glossy sword over a water basin. The third is referred to as "an other optical Science" but no particulars are mentioned at least in this manuscript.

## 2. Astrology and optics

Dee had already developed a detailed theory on optics in his first book, which was entitled *Propaedeumata Aphoristica* (1558 and 1568). Astronomy and astrology are thematically dealt with in this book. While the story of how he helped determine the date of the coronation of Queen Elizabeth I with the use of astrology is well known, the term astrology as used in this book is not akin to the telling of people's fortunes. As it is clearly stated in *The Mathematical Praeface*, astronomy deals with the magnitude and motions of fixed stars and planets and their distance from the earth, among other matters, whereas astrology deals with the "secrete influence: of the Sterres and Planets" (MP, b.iiij). Dee was determined to treat the latter as an *Arte Mathematicall*. Indeed, it took on magical characteristics because of its controllability.

The tradition of astral magic during the Renaissance is represented by Marsilio Ficino (1433–1499). Whereas he used music, chants, fumigation, talismans, and more to control the influence of stars using imagination through the medium of *spiritus*<sup>7</sup>, Dee attempted to naturally harness the radius emitted by celestial bodies and control it with catoptrics (PA, XLVIII, LII). In other words, it was possible to measure the direction and strength of this radius according to geometric principles and freely make adjustments using mirrors.

Nevertheless, Dee's optical theory was not especially original and came to be established thanks to the strong influence of the Oxford school – which consisted of the likes of Robert Grosseteste (1168 or 1170–1253) and Roger Bacon (1214–1294) – of the thirteenth century. Grosseteste integrated the Neoplatonic *metaphysics of light* with the subject of optics as explored by al-Kindi (801–873?) and achieved a breakthrough in the form of a geometric understanding of light according to the theory of the multiplication of species. Roger Bacon subjected the mathematical methods used by his teacher, Grosseteste, to greater standards of stringency. At the same time, he grasped light in natural terms in opposition to his teacher and conducted detailed analyses in connection with the rectilinear propagation, refraction, and reflection of light.<sup>8</sup> According to the theory of the multiplication of species, the *lux* of the sun as the source of light generates *lumen* as a species that passes through a medium while analogs thereto propagate continuously by way of an action through a medium. Important for this theory are interesting points: the propagation of light is based on geometric principles and qualitative differences in natural effects revert to quantitative differences in terms of the propagation of species.

There are two aspects to Dee's theory of optics. The first is the metaphysical aspect with which Grosseteste is associated. Dee metaphorically describes the metaphysical realm of *primum mobile* as a concave spherical mirror with which each created part of the cosmos draws itself in (PA, XXVIII). The light being explored by Dee, however, was no mere metaphor and constituted natural light as well. While Dee essentially adheres to Bacon's theory of the multiplication of species, Clulee argues that Dee's achievement lies in having elicited the implications of this theory to the maximum extent possible and systematically developing these implications within the context of astrology.<sup>9</sup>

It should be noted at this point that the term *optics* as used here encompasses not only visible rays of light but

also the more inclusive phenomenon of *radius*.

*The rays of all stars are double, some sensible or luminous, others of more secret influence. The latter penetrate in an instant of time everything that is contained in the universe; the former can be presented by some means from penetrating so far. (PA, XXV)*

In other words, light refers to radii that can be perceived with the senses while the other type of radius can also be rightfully known as occult radii. The phenomenon at issue, which consists of the occult influence exerted by stars, is also spoken of by Ficino and Heinrich Cornelius Agrippa (1486–1535) and is thus not an original idea that can be attributed to Dee. In any case, the negative expression by which this type of radius is described as being hidden to the senses cannot fully dispel the ambiguity of this notion. Dee especially fails to provide a clear definition of occult radii. From what can be obtained from reading the text, however, the following two interpretations are possible.

The first renders it conceivable to think of such radii in terms of the power of magnets. As indicated by Dee himself, this is because such power is “able to penetrate solid bodies” (PA, XXIII). The second allows for such radii to be construed as spiritual radii.

*Not merely spiritual species, but also other natural ones, flow from things both through light and without light, not to sight only but sometimes to other senses; and they come together especially in our imaginal spirit as if in a mirror, show themselves to us, and enact wonders in us. (PA, XIII)*

As this excerpt indicates, the distinction between *the visible and the occult* cannot simply be superimposed on top of the distinction between *the natural and the spiritual*. This is because some spiritual species can emerge through visible light. The issue is the existence of occult and spiritual species. Dee seeks to grasp even spiritual radii by drawing an analogy with natural radii through the use of certain optics. Perhaps the technique with which spiritual species can be gathered is the essence of scrying. At the same time, if occult natural radii exist, then the power of magnets could arguably constitute an example thereof.

Szönyi asserts that Dee was engaged in two traditional scrying techniques consisting of *catoptromantia* and *crystallomantia* and that he used a “black obsidian mirror” with the former to acquire visions concerning the future and a “crystal ball” with the latter to obtain information by summoning angels and spirits<sup>10</sup>. If the former can be likened to *Ars Sintrillia* as referred to above, then we can construe “an other (as it were) OPTICAL Science” as mentioned in *The Mathematical Praeface* as something that especially refers to *crystallomantia*. In contrast, *catoptromantia* can be construed as having been a point at issue in *Proaedeumata Aphoristica* in that, despite being a form of scrying, it should be described as “an other catoptric Science.”

### 3. Real *kabbalah* and alchemy

In the the epistle dedicatory of *Monas Hieroglyphica* (1564), addressed to Maximilian II, Dee criticizes the traditional Hebraic *kabbalah* as “vulgar” and puts forth his own methodology, which he referred to as the “real *kabbalah*.” While the former consists simply of the deciphering of text written by humans concerning “what is said,” the real *kabbalah* as espoused by Dee himself aims to decipher the *book of nature* into which records of “what exists” have been inscribed by God’s own fingers on all creature at the time of Creation. According to Dee, it was not only the Hebraic *kabbalah* but also the exoteric disciplines of vulgar literature, mathematics, arithmetic, geometry, music, astronomy, optics, and statics that needed to be overcome and improved by new esoteric disciplines, whereby medicine, *ars beryllistica*, *Voarchadumia*, and adeptship all relate to alchemy or the forms thereof.<sup>11</sup> Only the

methodology of the real *kabbalah* could embrace and shed light on these new disciplines (MH, 134/135, 136/137). While the esoteric disciplines that are treated in *Proaedeumata Aphoristica* and *The Mathematical Praeface* inquire into “the laws of reason and nature”(PA, 122/123), the esoteric sciences and real kabbalah entail an inquiry into “the law of the creation” (MH, 134/135). Rather than an objective target of examination, the latter constitutes a unique domain of investigation to be studied in correlation with the alteration of the consciousness.

The aforementioned *ars beryllistica* can be traced to Paracelsus (1493–1541) and means a “technique for seeing visions in beryl.” Since the stone to be used is not particularly limited to beryl, it is permissible to generally refer to this technique as scrying. What is interesting is that *ars beryllistica*, as mentioned in this text, is understood more in the context of alchemy than as a means of conversing with angels. According to Dee, “all sublunary things that are on the earth in the water” can be seen in a “crystal lamin” and “the entire regions of air and fire” can be seen in “a carbuncle or ruby stone” (MH, 136/137). Each likely corresponds to *albedo* and *rubedo* as opus processes carried out for alchemy. The differences in scrying roles taken on by crystals, carbuncles, and ruby stones are connected in terms of the colors of these stones, such that it is altogether difficult to discuss these differences based on empirical grounds.

According to the chart on the creation of the world as depicted in theorem 23 in the text of *Monas Hieroglyphica*, four phases are indicated for each of the following: “earth, water, air, and fire” and “darkness, clearness of crystal, yellowness, cinnabar” (MH, XXIII). The latter corresponds to the opus processes of *nigredo*, *albedo*, *citrinitas*, and *rubedo* carried out for alchemy. The former two phases are allocated to the “terrestrial world” while the latter two phrases are allocated to the celestial world, such that consistency with the description given in the dedication to King Maximilian can be confirmed. Another important point that can be discerned from the chart on the creation of the world is the ability granted by alchemy to rise to the celestial world, in other words to the “horizon of time.” While nothing precise is written in this regard, the magical art of summoning angels is a method of rising to the “horizon of eternity,” or in other words, a means of undergoing a “consummate metamorphosis.” Ultimately, crystals will come to be used for investigating the angelic world, which has transcended the celestial world, to say nothing of the sublunary world.

#### 4. Scrying and angel magic

While the first record of the scrying sessions undertaken by Dee was taken on December 22, 1581, he had already employed a scryer in 1579. This took place about a decade after the English version of *The Elements of Geometry of Euclid of Megara* was first published. It is said that Dee employed at least four different scryers. Among them, Edward Kelly (1555-1597) was a scryer of some renown. Scrying sessions were conducted more or less in line with the format outlined below.

Kelly would kneel down in front of his desk upon which a shew-stone was set and fell to prayer and entreaty while gazing at the stone. During this time, Dee would withdraw to his Oratory and entreat the appearance of angels with prayer. About fifteen minutes later, Kelly would “have sight of one in the stone” (FBM, 66f). He would then proceed to provide a point-for-point oral report on everything he saw and heard. Sitting at a different table, Dee recorded what was reported and posed all sorts of questions to the summoned angel or spirit.

The tools that they used to engage in scrying are of particular interest. That the very means of producing the tools of magic were taught by the angels that appeared through scrying was a significant characteristic of their magic. As the platform upon which scrying was performed, the Holy Table (**Figure 1**) was a two-cubit square table made with sweet wood that was supported by four legs measuring two cubits in length (FBM, 71-72). In the center of the tabletop was placed a wax disk with a nine-inch diameter known as “Sigillum Aemeth” (**Figure 2**) around which seven tin plates known as the “ensigns of creation” were arranged. Small Sigillum Aemeth disk were also placed

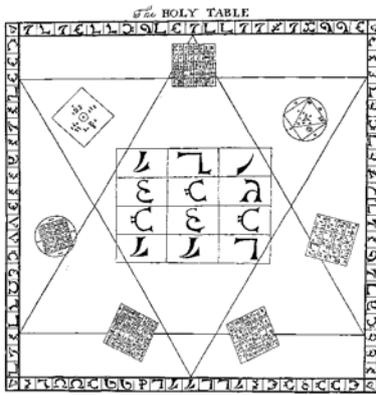


Figure 1

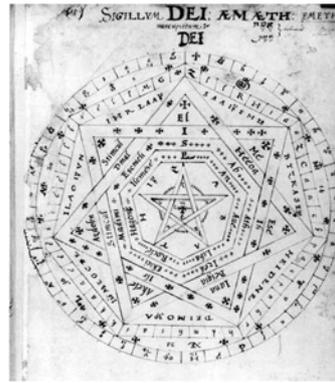


Figure 2

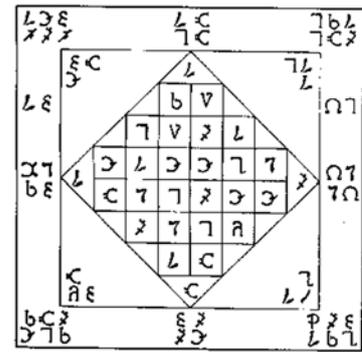


Figure 3

underneath the four legs of the table (FBM, 395-6). The table was covered with a silk tablecloth and a crystal ball was placed in the center of the Holy Table atop a cloth laid over the Sigillum disk (FBM, 71). The sryer would proceed to put on a ring, hang a breastplate made from pure gold called a “Lamine” (Figure 3) around his neck, and gaze into the crystal ball.<sup>12</sup>

Scrying is a technique for seeing visions by gazing into a crystal ball or mirror. These visions emerge when the practitioner is in a hypnotic trance-like state. Gazing is one of the basic means of inducing hypnosis and crystal balls are an optimal tool for inducing this hypnotic trance-like state since it causes various types of light to twinkle and the patterns of light to change on a constant basis. Leaving aside the question of whether scrying enables faraway realities to be visualized and the question of whether scrying can grant practitioners the ability to see the future, the very fact that visions can be seen is hardly a supernatural phenomenon. It is a possible experience that can be attained as long as you train enough. In fact, Dee himself was also able to see visions. In his journal entry of May 25, 1581, he noted: “I had sight in χρυσταλλω [Crystallo] offerd me, and I saw” (PD, 11). He later noted in regards to a session conducted in 1582 that he heard “a great thundering noyce” and “thumming” and may possibly have felt a “thumming in myne eares” and stated that “I perceyue the presence of some spirituall creature about me” (FBM, 216). However, Dee did not have the ability to make these visions freely appear whenever he wanted to see them or to see in a clear and sustained manner. In a normal session, he was capable of nothing more than seeing angels and spirits by “faith and imagination” (TFR, 31). Nevertheless, it cannot be said that he was simply an onlooker looking in from the outside on a world of visions generated by scryers. There is also the possibility that he was creating a state together with Kelly that could be described as a *folie à deux*. It is entirely conceivable that Dee’s intellectual background implicitly induced the formation of Kelly’s vision as Dee asked questions directed at angels and spirits and organized and recorded conversations conducted during these sessions.

Angela Voss regards scrying as a method for accessing the *mundus imaginalis*, a term coined by Henry Corbin.<sup>13</sup> The *mundus imaginalis* refers not to a fictional world generated by the consciousness but to an *autonomous world* that gushes forth involuntarily in a manner that involves the driver of imagination itself. Fundamentally speaking, scrying commonly constitutes a virtual experience consisting of observations based on the use of a crystal ball as a screen rather than an immersive experience. As noted in Dee’s records, however, Kelly sometimes obtained his visions by stepping away from the three-dimensional screen of his crystal ball and using the entire room as a stage in a manner that saw him make a complete break from the world of perceptions. In fact, Kelly’s visions truly represented a real world of experiences informed not just by sight and hearing but also by touch.

The *mundus imaginalis* is an “intermediate world” positioned between the sensory world and the intellectual world. However, this does not mean that it exists independently of the sensory world and the intellectual world. What exist are simply two processes: “the dematerializing of that which can be perceived” and “the figuralizing of that

which is intellectual.” The exposure of the hidden reality in two types of data – sensory data that must be transmuted to occult the apparent and intellectual data that must be revealed to manifest that which is hidden – is none other than *archetypal imagination*.<sup>14</sup>

However, Renaissance magic can be broadly divided into two types: the natural (astral) magic as practiced by the likes of Ficino and the kabbalistic angel magic as practiced by the likes of Pico della Mirandola. Whereas natural magic uses imagination as harnessed through the lower part of the soul with characters and images used as tools, angel magic uses the intellect that is tied to the rational part of the soul by manipulating numbers and letters. The term “intellect” as used in this context means intuitive intellect, or “the enraptured rational soul,” rather than discursive intellect<sup>15</sup>. These two types of magic probably correspond to the two functions possessed by archetypal imagination. In other words, could it not be said that archetypal imagination consists of natural magic as performed by focusing on the symbolization of the senses and angel magic as performed by focusing on the figuralization of the intellect?

Dee’s angel magic is not an exception. It is true that Kelly’s visions did not always concrete images. If anything, abstract numbers and characters appeared frequently. For example, the text known as *Liber Logaeth*, which was revealed by an angel, consists of ninety-five character boards filled with letters and numbers arranged in a 49 x 49 grid (**Figure 4**).<sup>16</sup> Angels communicate by using character boards and pointing at characters one at a time to form phrases. This process was seen by Kelly and conveyed to Dee. Characters were sometimes also imparted in reverse order. This was truly painstaking work. Moreover, expressions would be written down in Angelical, a unique language commonly known as Enochian (**Figure 5**). Pronunciation would be taught and an English translation would be provided subsequently. According to linguist Laycock, Enochian has a coherent structure in terms of phonology, syntax, and grammar.<sup>17</sup> The names of angels inscribed onto the surfaces of the Holy Table, Sigillum Emeth, and Lamine, which were discussed above, were also deduced by tracing character boards along various directions and according to different sequences as instructed by angels.

Irrespective of the fact that scrying constitutes actions carried out in a trance-like state, it is not possible to feel astonished at the extremely precise and well-proportioned regularity by which its products are characterized. The work performed by Dee and company, who responded to the uninterrupted emergence of a tremendous number of letters and numbers by compiling them one at a time in a table and repeatedly rearranged these characters accordingly with delicate concentration despite the overwhelming boredom that this task entailed, is just like the

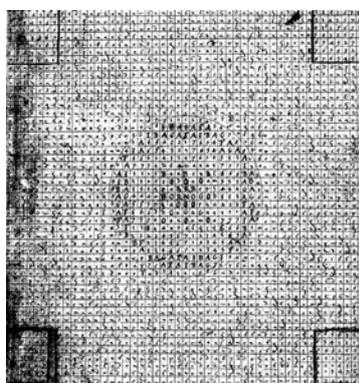


Figure 4

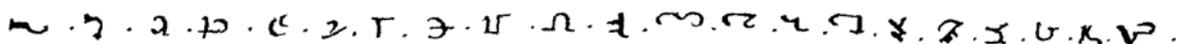


Figure 5

*zeruf* technique that is associated with *ecstatic kabbalah*, which was founded by Abraham Abulafia (1240–1291). *Zeruf* is a method of meditation for encountering angels that is practiced by endlessly rearranging characters while breathing and moving the body in a unique manner to enter a trance-like state.<sup>18</sup> Of course, Dee was familiar with *zeruf* as a method of scriptural exegesis. But it is an open question as to the extent to which he recognized *zeruf* as a methodology for inducing this trance-like state.

## Conclusion

In *The Mathematical Praeface*, various fields of natural science were provided with a mathematical foundation and accordingly systemized. The positioning of absolute knowledge in terms of *archemastrie* was described in order to empirically prove this foundation. Scrying was sought as a methodology for this purpose. At the same time, exoteric disciplines calling into question the laws governing the creation of the world were placed at the foundation of the natural sciences in *Monas Hieroglyphica*. A methodology known as real *kabbalah* was presented to shed light on these disciplines. For the time being, the esoteric disciplines were carried out as alchemy. For Dee, however, alchemy was not something that could penetrate through to reveal the origins of the creation of the world. The magical art of summoning angels that was performed later on took over the question that could not be answered by alchemy and would be tied to the methodology of scrying as mentioned in *The Mathematical Praeface*.<sup>19</sup>

For Dee, in other words, scrying was hardly inconsistent with the study of various forms of mathematics. If anything, the validity of mathematics was verified by this art. Certainly scrying might strike those of us who live in modern times as somewhat of an oddity. But it is not as difficult to understand scrying when we consider that Wolfgang Pauli, winner of the Nobel Prize in Physics, conceived the idea of the *exclusion principle* by analyzing enthusiastically his own dreams with the help of Jung, albeit without going so far as to employ scrying techniques. It may perhaps be possible to describe the scrying sessions conducted by Dee as part of *archemastrie* as an attempt to illuminate “the archetypal images used in the creation of scientific concepts” in much the same way that Pauli conducted his own analysis.<sup>20</sup>

Given the existence of dreams and the visions obtained through scrying, it is important to ask how such dreams and visions should be received and interpreted. The world of visions is a symbolic world in which the intellectual world undergoes symbolization. The process of ignoring the rich diversity of these symbols in favor of a univocal interpretation that is then put forth as dogma is too optimistic and unsophisticated. If anything, scrying can be described as an exceedingly effective tool for inviting us into a scene in which meanings emerge in all their primordially at the same time that existing frameworks are dismantled into an equivocal world of symbols to open up possibilities for various interpretations.

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Roman numerals denote fragment numbers while Arabian numerals denote page numbers.

Figure

Figure 1: A sacred table; Sloane MS 3188 TFR, \*77.

Figure 2: Sigillum Emeth; Sloane MS 3188.

Figure 3: Lamine; FBM, 386.

Figure 4: Excerpted from *Liber Logaeth* (commonly known as the Book of Enoch); TFR, \*78.

Figure 5: Characters as used in the language of angels; FBM, 269.

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- 5 In fact, Dee owned a copy of this text and underlined this word. Clulee, Nicholas H.: *ibid.*, p. 167.
- 6 According to Clulee, the term *nirang*, which appeared in the Arabian translation of *Picatrix*, means “a magical charm or spell.” Clulee, Nicholas H.: *ibid.*, p. 167.
- 7 Ref. Walker, D.P.: *Spiritual and Demonic Magic from Ficino to Campanella*. Studies of the Warburg Institute, Vol. 22, London: Warburg Institute, 1958. (translated into Japanese by Seich Taguchi, Heibonsha, 1993.)
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- 9 Ref. Clulee, Nicholas H.: *ibid.*, p.57.
- 10 Szönyi, György E.: Paracelsus, Scrying, and the Lingua Adamica : Contexts For John Dee’s Angel Magic. Clucas, Stephen, ed. *John Dee: interdisciplinary studies in Renaissance thought*. Dordrecht: Springer, 2006, p.213.
- 11 This is likely deeply tied to the issue of *medicina Dei*, which Dee would confront through scrying in later years. According to Håkansson, this was not simply the perfecting of a substance within a retort but rather a technique for healing and restoring the world entire. Håkansson, Håkan: *Seeing the Word: John Dee and Renaissance occultism*. Lund: Lunds Universitet, 2001. p.318-331. Harkness, Deborah E.: *John Dee’s Conversations with Angels: Cabala, Alchemy, and the End of Nature*. Cambridge University Press, 1999., p.195-214.
- Voarchadumia* refers to a form of alchemy that was practiced by Giovanni Agostino Pantheo with the aim of achieving the real transformation of metal by reorganizing the elements. Ref. Norrgren, Hilde. “Interpretation and the Hieroglyphic Monad: John Dee’s Reading of Pantheus’s Voarchadumia.” *Ambix* 52. 3, 2005. “Adeptship” means a form of alchemy, or Hermetic Science. Clulee, Nicholas H.: *ibid.*, p.85.
- 12 Incidentally, at least four different types of shewstones, which were used for scrying purposes, appear in Dee’s records. The first was referred to as the Great Chrystaline Globe and was used in a session conducted with Dee’s first scryer, Barnabas Saul, in the morning of December 22, 1581 (FBM, 61). The second was a crystal ball placed in a frame atop which was adorned a cross (FBM, 63). According to Dee, this was given to him by a friend (FBM, 66). The third was a stone that was said to have been granted by an angel. While the ring was also said to have been granted by the angel Michael (FBM, 78-9), they were both probably subject to trickery by way of Kelly’s sleight of hand. The fourth was a black obsidian mirror. While this is not noted in Dee’s records, it is kept as one of Dee’s personal effects in room 416 of the British Museum (a room dedicated to Medieval Europe) (registration number 1966, 1001.1). For a time, it was an item with a storied past that even became part of the collection owned by Horace Walpole, Earl of Orford, who was famous as the author of the Gothic novel *The Castle of Otranto*. The veracity of the claim that this truly belonged to Dee cannot be proven.
- 13 Ref. Voss, Angela: Scrying, *The Occult World*, ed. C. Partridge, 2013.
- 14 Mahmoud, Samir: “‘Alam al-mithal or Mundus Imaginalis.” MPhil, Faculty of Divinity. University of Cambridge. England, UK, 2005. Mahmoud uses the expression “spiritualizing of that which is intellectual” but “figuralizing” is thought to be more appropriate.
- 15 Ref. Hankins, James: Ficino, Avicenna and the Occult Powers of the Rational Soul, *Fabrizio Meroi and Elisabetta Scapparone*, eds., *Tra antica sapienza e filosofia naturale: La magia nell’Europa moderna*. Florence: Leo S. Olschki, 2007.
- 16 According to the Angel Galvah, this text is written as “Logaeth” and pronounced “Logah.” TFR, 19.
- 17 Ref. Laycock, Donald C.: *The complete Enochian dictionary: A dictionary of the Angelic language as revealed to Dr. John Dee and Edward Kelley*, London: Askin, 1978
- 18 Ref. Idel, Moshe: *The Mystical Experience in Abraham Abulafia*. Albany: State. University of New York Press, 1988.
- 19 Nevertheless, there remains the question as to how alchemy is positioned in the context of *The Mathematical Praeface*.
- 20 Ref. Jung, C. G. and Pauli, W.: *The Interpretation of Nature and Psyche*, By Routledge and Kegan Paul, London, 1955. (Translated by Hayao Kawai and Yoichiro Murakami, Kaimeisha, 1976)