

# Alchemical Catoptrics

Light, matter and methodologies of transformation in  
moving image practice

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## **Appendix 1. Biographical notes on key figures**

This appendix is organised chronologically by birth date, mirroring the chronology of historical catoptrics presented in Volume 1 (Chapter 3).

### **Al-Kindi (died ca. 866)**

Al-Kindi's full name was Abu Yusuf Ya'qub ibn Ishaq al-Kindi. He is widely considered the first great Islamic philosopher, probably born in the late eighth century in al-Kufa. He later lived in al-Basra and Baghdad. He did much to integrate ancient Greek thought into Islamic philosophy and metaphysics, while building upon it. He wrote and translated around 260 works across all branches of knowledge.

### **Alhazen (ca. 965 - 1039)**

Alhazen's full name was Abu 'Ali al-Hasan ibn al-Hasan ibn al-Haytham. Born in Basra, he spent his adult life in Egypt under the Fatimid Khalif, al-Hakim (996-1021). He died in Cairo around 1039. He assimilated a great deal of prior knowledge on optics and was familiar with the works Aristotle, Galen, Ptolemy, Euclid and Al-Kindi. Over 200 works are attributed to him, with at least 90 likely to be genuine. He is widely held to be the first to suggest that light emanated from objects to the eye, rather than objects being illuminated by the eye. The fact that we today accept this idea as a self-evident and obvious commonplace should not be allowed to diminish our sense of his breakthrough, for this was far from obvious during the time and context of his writing.

### **Robert Grosseteste (ca. 1168-1253)**

Grosseteste was born around 1168 and educated at Oxford and Paris, becoming chancellor of Oxford University, then bishop of Lincoln. He was one of the first scholars to assimilate Greek and Islamic optical thinking into western optical theory, drawing upon sources including Euclid, Avicenna, Plato, Aristotle and al-Kindi (Lindberg, 1981: 94-102) His cosmogony of light is most clearly outlined in *De Luce*, though he also refers to light in many of his other works, most notably in *De Iride* (On Rainbows), *De Colore* (On Colour) and the *Hexaemeron* (McEvoy, 2000: 88-105).

### **Roger Bacon (ca. 1214-1292)**

Roger Bacon was born somewhere in England and studied at Oxford and then in Paris, where he joined the faculty of arts around 1245. He returned to Oxford between 1247 and 1250 and joined the Franciscan order. Around 1257 he returned once again to Paris.

He died around 1292. Little biographical detail is known about his life. He was known to have endured criticism for his interests in astrology and alchemy, but the majority of his works were on optics, grammar, logic, Aristotle, and on the nature of knowledge. Many works attributed to him are likely to be apocryphal.

### **Ramon Lull (1232-1316)**

A Majorcan born mystic and philosopher. His fame as an alchemist is due to the pseudonymous attribution of over 120 alchemical texts to his name. Lullian alchemy (or pseudo-Lullian) emphasises dualities – light and dark, hot and cold, heavy and light. Most were probably written between the fourteenth and seventeenth centuries. (Rampling, 2008).

### **Nicolas Flamel (ca 1330–1417)**

The *Flamel legend* was of Nicolas Flamel the alchemist, who worked with his “beloved alchemical partner” Perronelle, achieving great success in transmuting metals to gold, distributing his subsequent great wealth through charitable deeds. He and Perronelle were also credited with making the elixir of life and becoming immortal, several sightings of Flamel have been claimed through the centuries. Current scholarship favours the view that the Flamel legend was propagated by the work’s first publisher in the early 17<sup>th</sup> century. There was a real Nicolas Flamel living at this time in Paris, but there is no evidence, other than his wealth and philanthropy, linking this man to the Flamel of alchemical fame (Linden, 2003: 123) Andre Breton shared a strong interest in Flamel and consulted the earliest known Flamel manuscript (mid seventh century) in the Arsenal library (Szulakowska, 2011: 35).

### **George Ripley (1415-1490) and The Ripley Scrolls**

George Ripley was a famous English alchemist. He was the son of a Yorkshire Gentleman, who, according to Ashmole (1652) “wasted almost his whole life in searching out the occult and abstruse causes and effects of natural things” (McCallum, 1996). The attribution of the Ripley Scrolls to George Ripley is likely to be apocryphal, since no extant scrolls can be dated to his lifetime and many contain verses not found before the sixteenth century. The earliest surviving copy, thought to date from the mid 16th century (Bodley Roll 1 in Oxford) is unlikely to be the original, as it has incomplete text (McLean, 2002: 2). Jennifer Rampling argues that the Ripley scrolls are likely to be composite works bringing together ideas and texts by several authors (Rampling, 2008). John Dee had a significant interest in Ripley, owning several copies of his works. Dee

and Edward Kelley travelled to Bohemia together in 1583, where Kelley went on to achieve significant fame in his own lifetime as an interpreter of the works of George Ripley, principally his *Compound or Twelve Gates* (Rampling, 2008).

### **Marsilio Ficino (1433-1499)**

Marsilio Ficino was the most important philosopher of the Italian Renaissance, a translator, syncretic interpreter and promoter of ancient theology. Ficino was radical in his agenda of attempting to harmonise Platonic and Hermetic thought with Christian dogma and his ideas at times drew suspicion from church authorities. Perhaps as a consequence, his writings are filled with somewhat awkward reconciliations between a god-centred universe and a Platonic or pagan sun worshipping one. Ficino anticipated fears that this work would incite criticism from the Pope, and took care to state that it is “allegorical and anagogical rather than dogmatic” in *De Sole*. Ficino embarked on a interpretive study of ancient theology within a Christianised context, publishing full Latin translations and commentaries on the works of Plato and Plotinus. Cosimo de' Medici was one his most significant patrons. His promotion and exegesis of the *Corpus Hermeticum* was to have a lasting impact across many aspects of Renaissance culture. Ficino attributed the *Corpus Hermeticum* to Hermes Trismegistus (the ‘thrice great’ Hermes), whom he believed to be a sage from Egyptian antiquity, the first father of philosophy and contemporary with Moses. The text of the *Emerald Tablet* of Hermes was to become a kind of talisman or mantra for a significant number of practicing alchemists.

### **Johannes Reuchlin (1455-1522)**

Johannes Reuchlin was a German humanist who promoted Hebrew and Jewish Kabbalistic mystical texts within the Christian tradition. His publication of *De arte cabalistica* in 1517 was influential on the development of Christian Cabala. See *On the Art of the Kabbalah* by Martin and Sarah Goodman for a full discussion and translation of this text (Reuchlin, 1993).

### **Heinrich Cornelius Agrippa von Nettesheim (ca. 1486-1535)**

Agrippa was born at Cologne in 1486 and attended the University of Cologne. In his early studies he was influenced by Albertus Magnus, Pliny the Elder and the Catalan mystic and metaphysician Ramon Lull (ca. 1232-1315). He practiced medicine and maintained an extensive network of occult and humanist contacts, delivering lectures on Johann Reuchlin's Cabala and discussing his occult work with Trithemius. His exposure to the Neoplatonic, Hermetic and humanist schools of thought was through seven years spent

in Italy 1511 -1518. “His works reflect influence by Marsilio Ficino (1433–99) and Giovanni Pico della Mirandola (1464–94), as well as by the Hermetic treatises ... and .. Jewish Cabala” (Nauert, 2011). He is best known for his large compendium of occult knowledge, published as *De occulta philosophia*, written, published and revised several times between 1510 and 1533, largely during his period of residence in Italy.

### **Johannes Trithemius of Sponheim (1462 – 1516)**

Johannes Trithemius, the German Abbot of Sponheim wrote extensively on occult subjects in addition to works on steganography, monastic reform, the ascetic life, bibliography and history. Like his junior, Agrippa, Trithemius also drew upon the works of Albertus Magnus, Ficino, Pico della Mirandola and Johan Reuchlin. His occult works included expositions on number mysticism, ciphers and symbols.

### **Paracelsus (1493-1541)**

Theophrastus von Hohenheim, who later adopted the name Paracelsus, was Swiss born and lived a precarious peripatetic existence mainly in northern Europe. According to his most recent biographer, Charles Webster, he endured a life of “relentless humiliation and disappointment” due in part to his strongly opinionated and relentless attacks on established authorities. On the question of his influences, Webster acknowledges the strong affinities between Paracelsus’s ideas and the Neoplatonic ideas of Ficino, Agrippa and Pico Della Mirandola in particular, but suggests Paracelsus may have been exposed to these more indirectly through his reading of Konrad von Megenburg’s natural science encyclopaedia and through his reading of the late medieval German mystics. In any case, it was clearly in Paracelsus’s nature to be equally as dismissive of ancient authority as of his contemporaries (Webster, 2008, pp. 110-116, 204).

### **David Beuther (ca. 1514 – 1582)**

A German born alchemist, David Beuther worked at the *Goldhaus* in Dresden (or Liepzig, Lowenstein), between 1575 and 1582, established by the Elector August of Saxony. After carrying out successful transmutations of silver to gold, he was imprisoned and threatened with flogging or having the fingers of his two hands removed unless he revealed his secrets. Reportedly saying that “imprisoned cats catch no mice,” he killed himself with poison shortly after. The secretary to the Elector, Herr Kunkel, was ordered to burn what was left of Beuther’s work, which he did not do, but prepared extracts drawn from Beuther’s work recorded by his private secretary, including the preparation of gold (Young: 105-106), (Beuther, 1718a, Spregel's foreward), (Janssen et al., 1966:

282-283) A large compendium of his work and laboratory procedures first appeared in 1718, as the *Universal und Particularia*. The full attribution of this text to Beuther is doubtful. There are notable shifts in style, tone and content between different sections of the text, leading me to believe it is most likely a work by multiple authors. I refer to the R.A.M.S Digital translation of the 1718 text, entitled in English “*The Transmutation of Base Metals Into Gold and Silver*, the date of translation and translator are uncredited. At least two manuscript copies exist of English translations of this text exist - *Manly Palmer Hall [P.R.S.] MS. 115* and the *Wellcome Institute MS. 1027*, their translations both credited to “S.B” or “S.Bacstrom” (Sigismond Bacstrom) in 1798, of a 1717 German version. It would seem most likely that the R.A.M.S Digital copy derives from one of these sources, though this has not been checked. *Wellcome MS 1027* also contains other works from the Leipzig laboratory apparently owned by the Elector of Saxony, including works in German by Paracelsus and the Bacstrom translation of *Chemical Moon-shine*. An online manuscript scan of an original 1718 German version of *Universal und Particularia* is available from the Open Library (Beuther, 1718b).

### **John Dee (1527-1609)**

John Dee was an English alchemist, mathematician, astrologer and would-be religious reformer. The son of an official at the court of Henry VIII, he was astrologer to Elizabeth I. He possessed one of the largest libraries of Renaissance science in Europe. He later travelled to the alchemical court of Rudolph II in Prague with his disreputable scryer Edward Kelley. As both a theoretician and a practicing alchemist, Dee amassed a substantial library of alchemical and optical texts, while also establishing alchemical laboratories. Documentary evidence is limited, but Dee’s practical alchemy certainly extended into his time living in Bohemia with Edward Kelley (Rampling, 2012). Dee’s writings on optics included his unfinished and incomplete tract on catoptrics and burning mirrors, *De Speculis Comburentibus libri 5*, six books written in 1557 (see Roberts & Watson 1990: 3-19). In the surviving part, Dee claims to give a full exposition on parabolic mirrors, detailing the definitions of cones, conic sections and parabolas, and how to derive their point of combustion. It also illustrates image formation in concave and convex spherical mirrors and methods for measuring incidence and reflection in mirrors. Dee also mentions having written a tract on light refraction, which no longer survives (Clulee, 1988: 68). Further optical experiments are described in *Experimenta in Speculo* (Oxford Bodleian Library MS Sloane 3854 (ff. 76r-80v).

### **Giovanni Battista Della Porta (1535-1615)**

Giovanni Battista Della Porta lived for most of his life in Naples. He was self educated through his uncle's library, where he also conducted his first experimental work. He earned his living as a doctor, engineer, bookkeeper, vintner, astrologer and writer. He founded what has been described as the first modern society primarily dedicated to experiment, the *Accademia dei Segreti*. His work included distinctly practical descriptions of alchemy, complex optical apparatus, optical illusions and solar distillation, but he did not fully integrate these ideas into his philosophical beliefs. Known for being free thinking and anti-authoritarian, he sailed close to the wind with his theories. He was at one time banned, by papal order, from practicing the "*arte illecite*," the forbidden divinatory arts. Zielinski describes Porta as "not a free rider of factualism. He was a juggler of the possible, which for him included risky games with the impossible" (Zielinski, 2008: 99).

### **Heinrich Khunrath (1560-1605)**

Heinrich Khunrath worked in Dresden and Leipzig. He spent time in the alchemical court of Rudolph II at Prague, and as physician at Count Rosenberg's castle at Trebon, where John Dee and Edward Kelley also stayed. He met John Dee at Bremen in 1589 and Dee was to have significant influence over his work. Khunrath also quoted both Agrippa's *De Occulta Philosophia* and Della Porta's *Magiae Naturalis Libri*. He was strongly Paracelsian and further influenced by the Christina Cabala of Johannes Reuchlin (1455-1522). His work in spiritual alchemy influenced the Rosicrucian movement in the first half of the seventeenth century. A good introduction can be found in Peter J Forshaw's article *Curious knowledge and wonder-working wisdom in the occult works of Heinrich Khunrath* (Forshaw, 2006).

### **Michael Sendivogius (1566-1636)**

Born in Poland, Sendivogius visited the universities of Cambridge, Ingolstadt, Leipzig, Altdorf, Frankfurt, Rostock and Wittenberg before working at the alchemical court of Rudolph II in Prague. His most important work was *De Lapide Philosophorum Tractatus Duodecim* (1604) later changed to *Novum Lumen Chymicum* (New Chemical Light), a key alchemical work reprinted throughout the seventeenth century.

### **Michael Maier (1566-1622)**

An alchemist born at Rendsburg in Germany, he received his doctorate in medicine at Basel. He published poetry in his early twenties under the anagram "Hermes Malvici."



He subsequently worked at the court of Rudolph II in Prague, achieving high position as Imperial Count Palatine. He travelled widely and may have acted as an imperial agent. He had many friends in Rosicrucian circles and, after the death of Rudolph II, sought refuge in England, where he spent several years, translating Thomas Norton's *Ordinall of Alchemy* into Latin (Ashmole, 1652). In London he published his first work and several of his others may have been written during this time. He returned to Germany in 1616, where many of his subsequent publications were issued (Klossowski de Rola, 1997). His important works include the *Arcana arcanissima* (1616), *Atalanta fugiens* (1618) and *Symbola aurea mensae* (1617).

### **Robert Fludd (1574-1637)**

Robert Fludd was an English physician, son of a high official within the court of Elizabeth I. He had strong Rosicrucian and Hermetic sympathies which put him at odds with other notable figures of his time, including disputations with Kepler. He studied at Oxford and travelled through Europe for six years, where he encountered Paracelsian and Neoplatonist influences, before returning to Oxford and London. Fludd's famous and richly illustrated works represent the apotheosis of pre-scientific light philosophy and luminous cosmogenesis, a journey begun with its roots in the writings of Al-Kindi, Grosseteste and Roger Bacon. Fludd's work synthesises and summarises theories of luminous cosmogenesis, hermetic concepts of microcosm and macrocosm, Christian Cabala, alchemy, Pythagorean geometry, astrology, Paracelsian hierarchies of creation and theories of cosmic musical harmony. The result was an attempt at a *theory of everything*, in *Utriusque Cosmi Maioris scilicet et Minoris Metaphysica Physica Atque Technica Historia* (History of the Macrocosm and the Microcosm – 1617/1618).

### **Georg Barsch (1585-1662)**

Also known as Georg Baresch, an alchemist living in Prague around the time of Rudolph II (1552-1612). Little is known about him, though it is accepted that he was one of the owners of the famous *Voynich Manuscript*. He corresponded with Athanasius Kircher and gifted his alchemical library to Johannes Marcus Marci.

### **Johannes Marcus Marci (1595-1667)**

A professor of medicine for thirty years at Charles University in Prague. Known as the "Bohemian Plato" and the "Hippocrates of Bohemia" he made significant contributions to the study of medicine, the motion mechanics of spherical objects, and optics. He was known to the Royal Society, who sought to initiate contact with him in 1667, the year he

died. His work was familiar to Robert Boyle and quite possibly to Newton (Aiton, 1970), (Pagel, 1963). Marci was apprenticed to Georg Barsch, from whom he gained the grounding in alchemical philosophy which underpinned his “chymical perspective” on the nature of generation, light and optics. Hermetic influences are readily apparent in his work, directly citing Roger Bacon and Paracelsus, plus Alhazen, Witelo and Kepler in his optics. In Margaret Garber’s paper on Marci, she argues that the “chymical understanding of light” is an under-explored territory, “distinct from mechanistic and Aristotelian theories of light”, a view supported within the wider context of this research (Garber, 2005). Marci’s catoptrical experiments were published in *Thaumantias, Liber de arcu coelesti, deque colorum apparentium, natura, ortu et causis* (Daughters of Wonder. A Book Concerning the Celestial Arch, the Nature, Origin, and Causes of its Apparent Colors) in 1648. This work a response to the problem of the generation of the colour spectrum of rainbows, a popular topic of debate during his time.

### **Athanasius Kircher (1602–1680)**

The Jesuit polymath Athanasius Kircher wrote voluminously on almost every conceivable subject, including Egyptian hieroglyphics, vulcanology, alchemy, medicine, optics, eastern languages, medicine, cabala, faith, music and magnetism. His approach was opposed to specialisation, seeking to combine subjects and establish connections between bodies of knowledge, as Paula Findlen puts it, “in the service of a unified theory of absolutely everything” (Findlen, 2004). Kircher claimed many of his depicted inventions to be his own, but he in fact borrows heavily from earlier authors, including Giovanni Battista Della Porta (Zielinski, 2008). Zielinski claims “only a few details” of Kircher’s optical works are original, and that they contain “the entire riches of Porta’s theatre of mirrors in a reworked version” (2008: 134) This borrowing carries through into his later alchemical-catoptrical inventions within *Mundus Subterraneus*. One of the key texts for this research, *Ars magna lucis et umbrae* is over one thousand pages long and does not exist in full English translation. Only limited sections related to his practical description of the camera obscura and the lanterna magicka are available in English translation. A full translation of this work is long overdue and would make it possible to more fully situate Kircher’s catoptrics within his wider context of thought, especially his understanding of light and optics. See (Hurwitz, 1984).

### **John French (1616–1657)**

John French was a chymist rather than an alchemist, using catoptrical methods while refraining from overtly metaphysical speculation. French described three catoptrical methods for the gathering of celestial salts in *The Spagyricall Anatomie of Water* (1653). The first involved extracting a milky substance from the moon by means of a concave glass and a sponge, yielding “the substance of the Moon”, claiming it might be “the key to no small secrets” (French, 1653). He further describes the calcination of antimony through the use of a burning glass, noting its gain in weight, plus the production of a purplish red powder through the “sun beames gathered together” by means of “glasses” without any substance at its focus. He said of this substance that it had a “volatile vertue” that would “imprese it[s] spirituall quality into gold it selfe” (1653: 137). It is interesting to note that French is often credited with the first English translation of Heinrich Cornelius Agrippa’s *Three Books of Occult Philosophy*.

### **Christian Friedrich Sendimir von Siebenstern (1600s)**

The attributed *Chemical Moonshine* author. Adam Maclean believes the author to be Christian Friedrich Sendimir von Siebenstern (McLean, 2013). Siebenstern also published under the name Chystostomos Ferdinandus von Sabor (including *Practica Naturae, oder sonnenklare Beschreibung der naturgeheimnisse* in 1721 and 1735). Ferguson cites two further possible pseudonyms: Christian Friedrich von Sternenberg and Christian Friedrich von Steinbergen, suggesting that all of these people may be the same author through a similarity in frontispiece’s to their works. “The author of the *Chymisch-unterirdischer Sonnen-Glantz* conceals his name under the phrase : Christlich, Fiirsichtig Vnd Stille, the initials of which, C. F. V. S., correspond either with Steinbergen's or with Sabor's” (Ferguson, 1906). Further research into the German language sources would be able to more firmly establish authorship and understand its context. The publisher was Johan Friedrich Fleischer (1690-1765) Fleischer was born in Leipzig and died in Frankfurt. The author of the work states that he worked for 37 years labouring over furnaces, an occupation he finally gave up after discovering the secret of the “Universal Spirit”. He cites numerous sources in arriving at his conclusions, including Helvetius’s *Golden Calf* (Schweisser), Basil Valentine’s 12 keys, Johan de Monte Raphaim, Michael Sendivogius’s *Tract de Sulphur*, George Ripley, Hermes Trismegistus, Paracelsus and Nicolas Flamel. Some familiarity with David Beuther’s *Universal und Particularia* seems apparent in his closing comments, in which he warns “Beware of all Particulars, for Nothing Particular is Universal” (Beuther, 1718a).

### **Nicaise Le Fèvre (1610-1669)**

A French born iatrochemist who held a teaching position at the Jardin du Roi in Paris, where he tutored a number of English royalist émigrés. On the restoration of Charles II in 1660, he was invited to England by the king as royal professor of chemistry and apothecary, installed in laboratories within St James's palace, where he continued to work until his death in 1669 (Koertge, 2008). His major work is the *Traicte de la chymie* of 1660, translated into English and published in 1662 as *A compendious body of chymistry* and in 1664 as *A Compleat body of Chymistry*. The work is comprehensive description of both the chemical and pharmaceutical operations and processes of the time. He described his "chymistry" as inclusive of the "contemplative", "operational" and "philosophical" knowledge of nature. Drawing upon the Paracelsian tradition, Le Fèvre advocated a theory in which the "spiritual substance", "universal spirit" or "essence" of all substances had a tripartite nature; "a heat, a moisture, and a drought", to which he linked three fundamental substances: sulphur (fire), mercury (moisture) and salt (dryness, or "the knot and cement of the fire and moisture") (Le Fèvre, 1662: 15-16, 20).

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## **Appendix 2. Translated passages – Porta, Dee, Kircher**

All translations carried out for the author by Paul Ferguson (2013).

### ***Giovanni Battista Della Porta: De Distillatione Libri IX, 1609***

#### **Chapter XVI Latin transcription**

##### **CAPUT XVI**

##### **De distillatione per Solis calorem.**

Explevimus distillationes per ignis calorem nunc pro solis, fimi, vini, fecium, calcis ejus vicaria, et similiū. Solis, non solum per se solum, sed per reflexionem. Utuntur iis non solum in ignis carentia, sed ad majorem vim medicaminum. Vidimus namque ex igne simplicium aquam extractam adventitias aliquas et mordacitatem recepisse, quod non evenit ex sole, ut in oculorum medicaminibus experti sumus. Utemur quoque in odoribus, qui quam maxime adustionem formidant, tam tenuis sunt essentiae. Paretur scamnum trium pedum altitudinis, semipedis crassitudinis, tantaeque longitudinis quanta vasorum imponendorum voto respondeat. Pars illa scamni, quae soli obvertitur, tabulis claudatur, ne sol in receptoria vasa illabens, et calefaciens, ea cogat aquam iterum in vaporem abire, et redire, unde egressi fuerint. Ubi sol Geminos emensus fuerit (nam solo aestivo tempore hoc distillationis modo uti poterimus) scamnum sub dio soli opponito. Mane herbis bene lotis, et exiccatis repleto vasa, ori vaporum aurichalceae fides citharae glomerulum virga intromittantur, quod ubi illatum fuerit, relaxabitur, prohibebitque exitum simplicibus. Colla mox submittantur vasorum, ut transeant per foramina scamni. Infra sunt vascula ampullarum colla receptura, mox claudantur spiramenta. Sol enim coeli medium scandens adeo ampullae alveos intentissimus aestus excalefaciet, ut herbae in liquorem, et post in pulverem solvet, ipse guttatim in inferiora vascula diffluet.

*Scamnum, A.B.*

*Vasa, C.D.*

*Foramina, E.F.*

*Subjecta ampulla, G.H.*

*Tabula objecta soli, I.K.*

*Relucens Sol, L.*

Sed frigidis regionibus ubi Sol oblique non tam incalescit, alio modo utendum erit, scilicet per reflexionem speculorum. Speculum enim concavum sphaereale, vel melius parabolicum soli obvertunt, quod reflexos radios ampullae convertit, stabit enim distillanda ampulla in medio solis, et speculi: radii enim in ampullae alveum reverberantes, non solum calorem: sed ignem excitabit, ut latius in nostra Naturali Magia, et exemplum.

*Sol, A.*

*Radii, B.C.D.*

*Speculum, E.F.*

*Radii reflexi, B.G.C.G.D.G.M.G.*

*Ampulla, H.*

*Receptorium, I.*

## **Chapter XVI English translation**

### **CHAPTER XVI**

#### **Distillation by the Sun's heat.**

We have now completed our discussion of those distillation methods that use heat generated by fire. We shall now deal with various substitutes for fire, such as the Sun, manure, grape and olive dregs, quicklime and similar things. In the case of the Sun we shall discuss not just distillation by the Sun alone but also distillation by means of reflection of the Sun's rays.

We use substitutes for fire not just when fire is not available but also to increase the effectiveness of medicaments for, as we have seen, the liquor extracted from herbs by fire alone is contaminated with foreign bodies and alien substances and also causes a stinging sensation, which is not the case with liquors distilled by the Sun as we have proved to our own satisfaction in the case of ophthalmic medicaments. We also use this form of distillation for scents and perfumes, because the weaker these are in essence the more they suffer from the application of too much heat.

Let a bench therefore be constructed which is three feet in height, half a foot in breadth and of sufficient length to meet the needs of the vessels that are to be placed upon it. That part of the bench which directly faces the Sun should be shuttered, lest the Sun,



alighting on the vessels which act as receptacles and thus heating them, forcibly converts the water into vapour and causes it to return whence it came.

When the Sun has exited Gemini (for we can only use this distillation technique during summery weather) you should place the bench directly in the Sun. In the morning, fill the vessels with herbs that have been well soaked and then thoroughly dried again. Then roll some brass cittern-strings up into a small ball and use a stick to poke this into the orifice from which the vapours will emerge. When this small ball has been inserted it will distend and so prevent the herbs from falling out. The necks of the vessels should then be inverted and passed through the corresponding holes in the bench. Below there are hollow areas in the flasks to receive the necks of the vessels. The air-vents are now sealed.

When the Sun reaches mid-heaven the intense heat will raise the temperature inside the cavities in the flask to such an extent that the herbs will liquefy and then turn into a powder, which will fall, drop by drop, into the hollow areas below.

*Bench, A.B.*

*Vessel, C.D.*

*Air-vents, E.F.*

*Receiving flask, G.H.*

*Panel facing the Sun, I.K.*

*The radiant Sun, L.*

In cold regions where the Sun, being oblique to the Earth, is not so hot, this technique will need to be adapted so that reflection by mirrors is used.

A spherical concave mirror (or, better still, a parabolic concave one) turned to the Sun will divert the reflected rays to the flask. The stillatory should, of course, be located between the Sun and the mirror<sup>1</sup>, for if the Sun's rays are allowed to reverberate in the bowl of the flask then they will not just heat the material but may even ignite it, as we have discussed at greater length in our *Magia Naturalis*.<sup>2</sup> See the illustration.

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<sup>1</sup> Translator's note: I assume he means that reflection is used rather than refraction. See the following footnote.

<sup>2</sup> This is presumably a reference to Chapters XIV to XIX on 'Burning Glasses', especially Chapter XIX, 'Fire is kindled more forcibly by refraction', available in English here: <http://homepages.tscnet.com/omard1/jportac17.html#bk17XIX>.

*Sun, A.*

*Rays, B.C.D.*

*Mirror, E.F.*

*Reflected rays, B.G.C.G.D.G.M.G.*

*Flask, H.*

*Receptacle, I.*

## Chapter XVII Latin transcription

### CAPUT XVII

#### De distillationibus per alios calores.

Sunt, et aliae caloris species, ut vinacea, olivarum feces, quae post olei expressionum relinquuntur, fimus equinus, sive bubalus, et calx viva: quae etiam putrefactiones dici possunt. Sunt, et quaedam distillationum species, quae mediae sunt inter putrefactionem, et distillationem, et erit quando concha, quae equinum fimum continebit, et foraminulis pervia supra balneum accommodata est, quae a furno ferventis aquae concalefacta duplicem calorem exhibet. Et est distillatio calida, et humida, et est medium quoddam inter putrefactionem, et balneum. Vinacea, et olivarum feces, quae post olei expressionem relinquuntur, est primus caliditatis gradus, et in rebus utimur mollissimis, utimur quae parvo calore putrefiunt. Secundus gradus est equinum fimum, seu bubalum, tertius et ultimus gradus est calx viva, aqua perfusa, et est calor calidus, et siccus. Qui fimo, et aqua calida uti velint, hac utantur fornace. Fiat arca lignea sex, vel decem pedum lata quatuor altitudine sesquipede, per cujus medium aeneus canalis excurrat, crassitudine humani brachii, foraminulentus, ut undique fissuris, et foraminulis scateat. Repletur arca equino, fimo, vel bubalo quod intra se vitreas ampullas contineat, undique stipatus cum suis pileis, et receptaculis ex rebus distillandis. Canalis foras egrediatur, cujus os aereo vase figatur aquae pleno cum suo operculo bene obstructo. Vas hac fornace adaptetur, qua igne excalescente per aquam in vase transit per canalem, et equinum limum calefacit per sua foraminula, cogitque repleri hoc, ac suarum calore simplicia, ut in vase distillentur.

*A.B., Arca lignea fimi plena.*

*D.E.C., Vasa distillatoria.*

*E.F., Canalis foraminulentus discurrens per medium.*

*G., Vas aeneum, ex quo discurrit canalis.*

*I.F., Fornacula.*

*H., Fenestella ignis.*

## Chapter XVII English translation

### CHAPTER XVII

#### **Distillation with other forms of heat.**

There are other kinds of heat, such as that produced by the dregs of grapes or olives after the juice or oil has been pressed out; by horse or ox manure; and by quicklime. All these forms of heat can be said to be the result of putrefaction.

There are also certain kinds of distillation which, as it were, lie half-way between putrefaction and traditional distillation. These are achieved by suspending a perforated shell-shaped basin containing horse manure over a bain-marie. When the basin is thoroughly heated by the furnace-effect of the boiling water it will give off heat with a twofold character, i.e. it is warm and moist. This so-called 'warm and moist distillation' is, as it were, 'half way' between putrefaction and distillation using a bain-marie.

The dregs of grapes or olives after the juice or oil has been pressed out supply the first degree of heat. We use this for the softest materials, i.e. those that require little heat for putrefaction. The second degree of heat is supplied by horse or ox manure, while the third and highest degree is provided by quicklime moistened with water – this last is so-called 'warm and dry heat'.

If you want to distil something using a combination of manure and hot water then construct a furnace as follows. Let a wooden box be built that is six or ten feet [long], four feet wide, and one and a half feet high. Through the middle of this box there should run a copper channel the width of a man's arm. This copper channel should be perforated so that the water can everywhere gush out through various fissures and holes.

Let the box then be filled with horse or ox manure studded with glass flasks. The flasks should at all points form an airtight seal with their caps and with the receptacles intended for the distillates.

The mouth of the channel is then fitted to copper vessel G, which should be filled with water and have a tight-fitting cover. The vessel will then be attached to the furnace. The heat carried by the water in the copper vessel will then pass along the channel and heat

up the manure in the box via the channel's perforations. This will continually refresh the manure. The warmth that it generates will also heat up the herbs in such a way that they are distilled into the vessels.

*A.B. Wooden box filled with manure.*

*D.E.C. Stillatory.*

*E.F. Perforated channel running through the middle.*

*G. Copper vessel from which the channel projects.*

*I.F. Vents.*

*H. Furnace-window.*

***John Dee, Monas Hieroglyphica, Theorem XVII, 1564***

**Latin to English translation:**

If we allow our Cross to be divided into two other letters then, just as we previously carefully examined according to a certain method [i.e. presumably by the gematria] the numerical values of those letters so we now compare with that selfsame Cross the verbal values of each of those letters in turn. We then conclude with the greatest wonder that there arises from that comparison LIGHT (LVX), the ultimate and Magistral Word (out of that tripartite phenomenon, born in the unity, harmony and consensus of the Word).

## ***Athanasius Kircher, Ars Magna Lucis Et Umbrae, 1646***

Passage accompanying the illustration of a Memnonian sculpture. From *Athanasii Kircheri Fvldensis Bvchonii E Soc Iesv Presbyteri; Ars Magna Lvcis Et Vmbrae. In decem Libros...* Rome, Scheus: Wolfenbüttel at Herzog August Bibliothek Online, 2007, shelf mark: drucke/94-2-quod-2f, after page 889

Available at <http://diglib.hab.de/drucke/94-2-quod-2f/start.htm?image=01001>

### **Ars Magna Lucis Et Umbrae Latin transcription, page 889**

Magia Catoptrica

Problema V

Statuam construere, que ad ortum Solis, et singulis horis consequentibus, Sole percussa prodigiosum sinum excitet.

Vide fig. 3 Iconismi 31.

De hisce statuīs fuse tractabitur in Mechanica nostra Hieroglyphica, quare hoc loco fabricum statue tantum obiter at paucis describemus, ne quidquam curiosarum rerum in hac Arte nostra Magna omisisse videamur.

Fiat cista quaedam ex plumbo, vel alio quouis metallo signata literis ABCDEF, vt 3. Figura docet, quatuor palmorum longitudinis; latitudinis altitudinis que palmi vnus. In hac  $\frac{1}{4}$  pars BEFJ, diaphragmate ELB dirimatur, per quod siphon ELB, inflexus ducatur. Huic vasi statua Memnonia eo habitu, et situ qua figura MP refert, imponatur. Porro ex huius vasis interiori superioris lateris superficie tres deducantur syphones; B in corpus colucris Z, alter sistulam MN referat. Syphon tertius sit OP, qui per corpus flatuæ deducatur in os, et oculos. Vas vero ADLE, suo affario platismatioque 1 instructum sit, cuius pes per fundum vasis in aquam viuam deducatur; vas autem ita sit vndique claufum, vt ne minimum quidem aeris exhalere possit; in vasis superiorilatre duo hemisphaeria G, et H, imponantur, quorum concaus, cum concauo vasis ABKL, cotinuenture. His rite peractis, ita machinum animabis; Machina prius ad tertiam partem replete humore, expones Soli, quae mox vbi radios senserit, in hemisphaeria G, et H illapsos, vehementer interiorem aerem rarefaciet, hic consequenter aqua premet, quae pressa, cum aliunde non possit, per E syphonem inflexum sese insinuabit in vas N, ibique latentem aerem fumma viper B,O,N, syphones expellent, atque in Z quidem volucris

fibulum, in M sonum animalis, in P vero et oculos mouebit factitios, et ad minitandum aptos, industrie in ertos, lingua quoque inflatum extra os prottudet, mirum dictu spectaculum. Porro Sole recedente aer in vase AB condensatus cum minorem locum requirat, in auxilium nouam aquam per affarium I attractam aduocabir, quem in recedentis locum substituat, aqua vero vasis N, per epistomium I. vacuata, nona parabit spectacula.

Si itaque huiusmodi prodigiosum sonum singulis horis exhibere veils: Machina in centro X figurae II. ita applicabitur, vt vtrumuis G, vel H, hemisphaerium X centro respondeat, et Sol globulos horatios crystallinos transiens singulis horis, ardenti foco suo G, vel H, in momento calefaciet, quam calefactionem necessario quoque intensus sonantis statuae effectus consequetur. Sole vero a globulo crystallino recedente, c effante que; et sic duodecies statua de die sonabit, et quasi praeconem horarium; fumma audientum admiratione aget; critique hoc spectaculum perpetum. Verum qua ratione huic machinae cocem humanae proximum, indere possimus, alibi susius declarabitur; vnde, qua ratione Solis luce haec machina animari posit, hic obiter tantum insinuasse sufficiat.



## Ars Magna Lucis Et Umbrae, English translation, page 889

Catoptric Magic.

Problem V.

To construct a statue which makes an impressive sound at sunrise and at each individual hour thereafter when the Sun's rays alight upon it (see fig. 3 of illustration-sheet 31).

The subject of these statues will be dealt with at greater length in our work "Mechanica Hieroglyphica." Here we shall content ourselves with describing the construction of the statue in a few words, as we do not wish to appear to have omitted any curiosities from the present work, which is after all our "Ars Magna."

Let a box be constructed of lead or of any other metal as indicated by the letters ABCDEF, as shown in fig. 3. This box should be four spans [1 span = approx. 4 inches] in length, and one span in both width and height. In this box a quarter-part as indicated by the letters BEFL should be separated by a partition ELB, through which a curved siphon ELB [sic] should be introduced. Onto this apparatus the Memnonian statue<sup>3</sup> in its usual garb and stance should be placed as shown in fig. MP. From the interior surface of the upper side of this apparatus three siphons should be drawn out: B, which leads into the winged[?] body Z; a second siphon carrying back the pipe MN; and a third siphon OP, which is drawn through the body of the statue to the mouth and eyes. The vessel ADLE should be fitted out with its assarium valve<sup>4</sup> and its platismatio [small lateral door?] I, the foot of which should be drawn through the bottom of the vessel into some aqua viva. This construction ensures that the vessel is completely sealed, so that the least amount of air can escape. In the upper surface of the apparatus there should be placed two hemispheres G and H, the concavities of which should be continuous with the concavity of vessel ABKL.

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<sup>3</sup> Translator's note: <http://egyptsites.wordpress.com/2009/02/10/the-colossi-of-memnon/>

<sup>4</sup> Translator's note:

[http://books.google.com/books?id=l9qBdzRz6SgC&pg=PA77&lpg=PA77&dq=assarium&source=bl&ots=TI5je2k\\_1b&sig=U0weA37tTB\\_8TuikDFZHmMADke8&hl=en&sa=X&ei=FBVGT-HyK8qp8AOP-cSTDg&ved=0CEgQ6AEwBQ#v=onepage&q=assarium&f=false](http://books.google.com/books?id=l9qBdzRz6SgC&pg=PA77&lpg=PA77&dq=assarium&source=bl&ots=TI5je2k_1b&sig=U0weA37tTB_8TuikDFZHmMADke8&hl=en&sa=X&ei=FBVGT-HyK8qp8AOP-cSTDg&ved=0CEgQ6AEwBQ#v=onepage&q=assarium&f=false)

After you have performed this procedure correctly, set the Machine to work as follows. Expose the Machine, which has previously been one-third filled, to the Sun. This will soon powerfully rarify the air inside the Machine when its rays alight upon the Machine's hemispheres G and H. This brings the water under pressure. The pressurised water, since it has nowhere to escape to, will infiltrate curved siphon E and pass into vessel N, where it will expel the latent air with the greatest force through siphons B, O and N and cause in Z a rapid hissing noise, and in M an animal-like sound, and in P will move the artificial eyes and, if they have been carefully inserted, will make them able to inspire fear. It will also cause the tongue to protrude from the mouth – a truly wonderful sight! Then, as the Sun recedes, the air in vessel AB, which will be condensed since it will now require less space, will call upon the services of some new water, drawn through assarium valve I, which will take the place of the receding water. The water evacuated through stopper L will produce new [typo for 'nova'?] marvels.

If you want to produce an impressive sound of this kind at the individual hours then the Machine should be so deployed in the centre X of fig. II that either hemisphere G or H will respond to X in the centre, and the Sun, passing over at the individual hours the crystalline globules which mark the time will, with its burning focus, heat up G or H at that moment, which heating of necessity will cause the statue to produce intense sound-effects. As the Sun recedes from each crystalline globule, and the heat is correspondingly reduced, the effects mentioned will also cease, until the Sun illuminates another globule, and so twelve times a day the statue will resound and will serve as a sort of Herald of the Hours. It will perform its various tricks to the greatest admiration of those who hear it and will be a perpetual marvel.

By the same mechanism we can actually endow the Machine with a voice similar to that of a human being, a subject which will be described at length elsewhere. And so, by this mechanism this machine can be activated by the Sun's rays, and this shall suffice as an incidental account of the subject.

## **Appendix 3. Arcana Divina summary and translation**

### **A note on sources and translations used**

The illustrations (Volume 1 figs. 34-37) come from various different manuscript versions of the Arcana Divina held at Yale University's Beinecke Library (Anonymous, ca. 1725) and at the Wellcome Trust Library, London.

In my summary of the contents of the text below (see also Volume 1, 3.3.8), I refer to two partial translations. The first, "Part 1" is an extant English translation from an anonymous manuscript originally from the Ossegg Cistercian Foundation of Bohemia, translated by Dr G. A. Fuchs, date and author unknown (Anonymous, 1989). This translation unfortunately ends prematurely at the point where the catoptrical "machine" is discussed in detail. I therefore asked Paul Ferguson to translate the latter part of Wellcome MS 1091 (1777, in French), starting on P379 of the manuscript. This translation is "Part 2" below, corresponding to the point at which the Fuchs translation ends. The Beinecke Library Mellon MS 88 is written in old German, in handwriting very difficult to read, so a direct translation of this manuscript was not attempted.

Within Wellcome MS 1091 there are several other alchemical texts, including texts by Basil Valentine and Nicolas Flamel. The Arcana Divina starts on page 346 and is broadly in accordance with the Fuchs translation until it reaches page 379, where the Fuchs version ends. At this point, the French text continues, with a title beginning "Regle Fondamentale Pour faire Notre Machine" This section goes on to page 407 – around 28 extra pages, in French. The French is here readable in a way that the German writing of Mellon MS 88 is not.

The Wellcome MS 1091 text contains inferior illustrations related to those seen in other versions of the Arcana Divina, on pages 346, 347, 348, 349. The one on page 348 is the most complete, with "Designation des dominations et planetes sous la puissance desquelles sont toutes les autres" (Designation of domination and the planets under the power of which everything is) and "Dessein de la forme de notre machine". The next image appears to describe the activity of the planets during the hours of the day - "Explication du cours des planets; comment elles l'achevent, tant pendant le jour que pendant la nuit. Ainsi que leur jour et heure." (Explanation of how the planets complete their courses, both during the day than at night. And their days and hours.)

## **The Arcana Divina text – a summary of contents**

The text of the Arcana Divina is infused with numerous lengthy passages praising God, while being regularly interspersed with concrete descriptions of alchemical operations. To give a true picture of the diversity of operations to which this catoptrical apparatus was put, I have summarised the contents of the text below. The first part is drawn from the extant Fuchs translation. (Anonymous, 1989)

### **Part 1**

The author begins by criticising the use of the “materialistic fire” and instead promotes the application of “natural fire” or “astral fire”, by which he means the light of the sun, through “our apparatus” (referring to the illustrated catoptrical apparatus). In the first alchemical operation, the author refers to the separation of mercury through the use of “magical natural fire”. He further describes an operation involving a mixture of ‘Nitrum’ and common salt “by the process of ethereal calcinations.” He notes that substances undergoing this treatment experience a significant increase in weight, “as though this magical preparation were able to capture and concentrate the Spirit of the World”. He then describes an operation involving volatized sulphur, nitre and gold dust.

The author goes to considerable lengths to emphasise his religious piety and to reassure the reader that the actions described are in the service and glory of God. He describes the action of heat and light upon a mixture of cobalt and nitre as a “penetrating force of the General Spirit of the World; which shows an increased oscillation and finally... reveals its astral nature.” He describes the calcination of gold, with nitre, by the rays of the sun, giving up a “deep ruby-red glass.” In another of his God praising passages, the author suggests the dwelling place of the Holy Spirit is in the air, from which our “natural fire” is derived, a concept certainly related to the Paracelsian *flamma vitalis*. The following passage is typical of the author’s alchemical descriptions, describing the way in which the substance is “magnetic” to the solar radiations, attracting and absorbing them, being increased in weight through their action, while being purified:

Taking our celestial power, i.e., by using the Niter, placed in a wide shallow glass container and set in front of our apparatus containing the magical Fire, and allowing the material to be calcined by the rays of astral radiation, so that the universal, solar essence will be carefully absorbed by its magnetic force and it will become very finely powdered and will increase in volume and when it has been sufficiently treated in this fashion, it will be further treated with alcohol, then heated from time to time with salt, and finally subjected to the full focus of our natural radiation falling upon it, so that it will melt and be purified by the bright sunshine and become absolutely clear, calm and motionless.

The author further describes the production of a “potable gold” by means of our “Magical machine” for curing ailments. He then describes how the apparatus might be used upon “all things that live in water” including mother of pearl, corals and mussels, since these substances “belong to the mineral kingdom”. He describes in detail the calcination of pearls, which transforms them “into a higher and more permanent state.” He then describes operations of the apparatus to calcine aluminium and talc, plus an operation which uses both ordinary fire and “natural fire”, concluding “The more a metal or mineral is calcined by our magical “natural fire”, the more it will go into solution.”

The author describes the producing of two kinds of tinctures obtained from vegetables, one for producing a greater quantity of crops, the other for improving their health benefits. He then progresses to the production of volatile oils and coloured tinctures, describing the distillation of rose petals. There follows a detailed description of the effect of the natural fire apparatus upon wine, which ultimately congeals, he says, into a “gemstone” that can turn water into wine and prolong life. A passage then warns against the misuse of this knowledge, describing the homunculus as being from the Devil and warning against animalistic thoughts. But the author then describes placing a cage of hens, ducks geese and other poultry before the apparatus, saying it was not set on fire. “Many wonders are still to be found in the flesh and bones of mankind (all of which have been described to some extent), and in his excrement and urine.” He then suggests it might be possible to reveal important and very obscure predictions as a result of the death of certain living creatures, even though this might displease God.

The text begins to draw to a close with a passage describing the appropriate astrological timings for certain operations with certain metals “at the proper hour of the planetary sign in front of our magical natural fire.”, ascribing a specific day of the week to each metal. He says that these forces act in concert on a Sunday “since the sun itself is considered a reagent.” And that a “Magic Mirror” might be cast on this day from the seven metals. The text, or translation, is somewhat unclear at this point, but he appears to suggest that by using such a magic mirror, a bell might then be cast, “by which an entire army might be summoned or be sent into retreat.”

The Fuchs text concludes by suggesting the apparatus and the natural fire could be used to irradiate the food of one, two or three men, resulting in a long and rejuvenated life, as well as providing an assurance of entering heaven and eternal life.

## Part 2

The text continues with “rules for constructing the machine”, first explaining the dimensions of the burning glasses, their thickness and methods for adjustment of the degree of heat. The melting of gold is then described, yielding a “fiery red glass”, which the author calls “solar glass”. He claims a single grain of the red powder will tinge 100 grains of silver into the best gold. A process is described for using sal ammoniac mixed with gold and heated, yielding a “solar sulphur” or “soul of the sun”, which once dissolved under solar heat yields a dark red oil capable of transmuting 1000 parts of silver into gold. Further processes are described for making potable gold, saying the process can also be used to make other metals potable, by means of “philosophical calcination”. A process for mixing mercury with sulphur is described, yielding silver.

A description for making the “stone of the wise” begins with the following:

Dew mist and frost come from... the upper regions and the Universal Spirit. Everything is created with its assistance and everything emanates from it. It is then projected onto us by the common air, and subsequently manifest as visible and comprehensible bodies.

Taking frost if winter, or dew if summer, this is then exposed to the “magic natural heat” to yield an “astral salt”, which when mixed with either silver or gold as a “leaven” will affect a transmutation.

The “spiritus mundi” is then discussed in “meteorological terms” as the “Secret of all Secrets”, describing the relationship of meteorological phenomena within a spiritual hierarchy, in which “the rains are born in this *meteorica* by coction *in mediis intersticiis*” (ie. in the middle interstices):

It is there that the spirit of the world is found, which coagulates the bodies of metals... for it is from this spirit that the rays of the congelations emanate through the rays of the sun. These penetrate all things in such a way that a *creatum* arises. [ie. ‘a created thing’]

There is a description of the optimal circumstances for collecting this ‘spirit’. The next section explains the combined use of the machine in exposing substances first to the “cold lunar fire”, then to the “solar fire”, thereby “regenerating” them. Of this method, the author says:

All the operations that you wish to perform with our universal machines must take place in accordance with nature and in such a manner that each type of substance delights in the nature of its likeness, so that all corporeal things return to their centre and to their first principle, so that they become the *ens primum* (ie. primary essence) as they were in their beginning, without the destruction of their bonds of life or their roots.

Different effects are described for a variety of specific substances, including: crystals, corals, pearls, mother of pearl, diamonds, emeralds, white sapphire, magnesia, jacinth, rubies, carbuncle, chalcedony, topaz, amethyst and chrysophage.

The claims made for the subsequent powers of these 'regenerated' substances are often bizarre, including the preservation of chastity, the bringing of happiness, the power to make birds follow you, to make you attractive, to protect against disease, frighten away phantoms, and the power to extinguish fire.

Methods for "transforming flawed stones" with the machine are given, including processes for *alumen plumosum* and talc, plus a method for making diamonds from well water. A description for extracting a crystalline powder of *fire* (sulphur) from the air using lunar "cold natural heat" follows, plus the effects of lunar fire upon mercury, corresponding to *water*, nitre related to *air* and vitriol and common salt for *earth*. The mineral sources for the *primum ens* of each of the main metals is described, emphasising the 'living' nature of these essences:

You must understand that it is a living species that resides therein, and it is its tender spiritual youth. That is why we think it is impossible to obtain this spirit of primum ens using the material fire of wood and coal... use only the revitalising heat from which the living spirits originated and by which they were created and nourished.

A description then follows for creating the "Tree of Gold" or "Philosophical Tree" which appears to be a lengthy process of crystal formation within a glass vessel, yielding a tree like structure which, if continuously nourished with "philosophical mercury" will yield a continuous crop of gold branches.

The doctrine of each thing or species carrying its own seed is repeated, each thing "eternally produces its own likeness", with further instruction on producing the red stone. The main manuscript concludes at this point, but, as a series of appendices, continues to describe a number of peculiar uses for the "lunar machine". These include

its use in attracting fish at night, to make powdered swallows, to freeze bats (on Sundays), using the bat-powder to counter magic spells.

There is an interesting description of the use of the machine to look at the stars, by placing a mirror beneath it:

You will see represented there the whole of the moon, the stars, landscapes, mountains valleys, water and fire, and in the last of these thousands and thousands of dreadful figures moving around, some more quickly than others. Their gaze is truly terrifying. The world of the shades and spectres can also be extremely well observed there.

The author appends a few final instructions on some random topics, such as the fattening of crayfish, an alchemical recipe to create water springs, a conventional gold-making recipe and a method for removing stains from engravings through chlorine fumigation.



## ***Arcana Divina, Wellcome MS 1091, in French, 1777***

A transcription and translation into English by Paul Ferguson of pages 379-407, 348, 349

In the transcription the late-18th century spelling has been modernised and symbols converted into words.

### **Transcription of pages 379-407, 348, 349 in French**

#### Règle fondamentale pour faire notre machine.

Nos verres ardents doivent être faits de la plus pure et la plus fine matière, ensuite supérieurement bien polis. Plus ces verres seront grands, plus leur force sera grande pour opérer plus promptement, et plus efficacement pour finir une opération.

Cependant leur grandeur suffira pour tous les œuvres ci-devant détaillés, quand le verre capital contient en son diamètre vingt-quatre pouces, et au centre trois pouces; puis, le verre collectif en son diamètre douze pouces et au centre deux pouces un tiers, car la trop grande force du feu, quoiqu'il sorte de la nature, nuit néanmoins et outrepassé les genres moindres qui ne pourraient être portés dans la perfection, ainsi que par comparaison nous pouvons l'observer, lorsqu'un été aura été excessivement chaud et sec. C'est pourquoi chaque opération doit être dirigée suivant son espèce et par le degré de feu qu'elle réquiert.

Si vous avez besoin de donner feu de fusion, il faut que le foyer entier frappe la matière exposée. Si vous voulez donner feu calcinatoire, ou celui de digestion, ou celui de distillation, vous poussez la machine exposée de quelques degrés, ainsi que nous l'avons indiqué au dessein de la machine, à proportion qu'il sera nécessaire, soit en arrière, soit en avant, ce que la pratique vous apprendra facilement.

#### Des particuliers.

Pour amour envers Dieu, en faveur des pauvres indigents, nous allons indiquer quelques particuliers pour subvenir à leur subsistance, afin que la miséricorde et la toute puissance de l'être suprême soit reconnue de plus en plus, et qu'il soit rendu grâces à lui seul de tous les bienfaits dont il nous a comblé.

1. *Recipe* de l'or fin, autant que vos facultés vous les permettent, posez-le sur une pierre lisse qui soutient le feu devant notre machine, calcinez-le avec un peu de cailloux pilés très fin, en cela jusqu'à ce que tout devienne rouge et que les cailloux ne donnent plus de fumée. Alors vous augmentez le feu peu à peu, et sur la fin vous donnez le foyer

entier. Tout fondra ensemble et se vitrifiera en un verre rouge de feu comme un rubis et augmenté en poids. Puis pesez ce verre solaire. Ajoutez-y dix fois autant de son poids d'or fin. Faites fondre le tout ensemble sur un petit têt plat. Vous obtiendrez une poudre d'un rouge écarlate très friable.

Un grain de cette poudre projetée sur cent grains, et même plus d'argent teindra le tout dans le meilleur or. Toute cette opération s'achève en 2 à 3 heures devant notre machine par notre feu magique de nature.

#### Autre particulier plus important.

2. *Recipe* sel ammoniac. Calcinez-le pour en ôter toute humidité, mêlez-y de la terre de potier un peu sèche. Formez des petites boules grosses comme des petits pois. Séchez-les. Puis, poussez-les *per descensum* devant notre machine par notre feu de nature. Vous aurez alors préparé votre menstrue d'extraction.

Si ensuite vous versez ce menstrue sur de l'or calciné par des cailloux, ainsi qu'il est dit ci-dessus, il en fera sur le champ l'extraction de son soufre; puis distillez en le menstrue. Il restera au fond du verre le soufre solaire ou *anima solis*.

Ce soufre solaire se dissout par la plus petite chaleur du soleil que nous pourrions lui donner devant notre machine en une huile rouge foncée, puis cette huile coagulée et figée par un degré plus fort de notre feu de nature, on en obtient une teinture dont une partie transmuera plus de mille parties d'argent en or.

#### Autre.

3. Faites fondre ensemble argent et or *ana* devant notre machine de feu de nature. Projetez-y un peu de soufre commun, et successivement tant que la masse paraisse ressembler à une scorie toute rouge. Dans cette opération le Vénus avec son soufre figurera la femme froide lunaire, et il entre avec elle dans la maison d'honneur fixe solaire.

On peut procéder de la même manière avec tous les autres métaux.

Nous ne voulons pas nous arrêter ici plus longtemps: nous préférons ce qui peut servir pour la santé, en vous indiquant comment préparer le précieux or potable.

#### Or potable.

Faites fondre devant notre machine par notre feu de nature six parties d'or fin. La fusion faite, retirez l'or un peu en arrière, et donnez feu calcinatoire. Projetez un peu de soufre commun. Pulvérissez successivement et peu à peu les six parties d'or. Remuez continuellement avec un bâton de verre. L'or s'ouvrira, se gonflera, montera et

deviendra tout poreux. Continuez la calcination jusqu'à ce que tout soit devenu rouge d'écarlate et qu'il se laissera broyer en poudre très fine.

Mettez cette poudre dans du bon vin, ou esprit de vin. Elle s'y dissoudra à l'instant. Elle colore le vin d'un beau rouge et se rend ainsi potable.

Mais si de nouveau vous vouliez rendre cet or corporel, exposez-la dans une capsule de verre devant notre feu de nature pour la réduire par la cuisson. Vous obtenez alors le corps sous la forme d'un soufre d'or que se dissout très doucement en une huile d'or.

Puis coagulant cette huile, vous en aurez une teinture particulière dont une partie peut teindre plus de mille parties d'argent en or pur.

Tous les métaux peuvent être rendus potables de la même manière. Et ce qui est surprenant dans cette opération, c'est que chaque matière augmente et s'améliore sous notre feu de nature par le bénit esprit du monde.

Observez que dans la calcination le soufre ouvre les pores des métaux, et qu'ils deviennent par l'attraction de l'esprit universel du monde très fluides et disposés à se dissoudre dans l'esprit de vin, ou dans du vin, et se rendent ainsi potables.

Tous les minéraux, coraux, pierres d'agate etc. peuvent être réduits en liqueur par notre calcination Philosophique.

#### Fixation et coagulation du mercure vif, de l'esprit de vin, et d'autres esprits.

À l'occasion de ce que nous avons dit ci-dessus, nous nous souvenons de devoir aussi vous instruire de figer et coaguler devant notre machine, par notre feu de nature le mercure vif, l'esprit de vin et d'autres esprits. Savoir:

On met le mercure vif dans une capsule de verre ouverte, ou sur un têt devant notre machine. Aussitôt qu'il sentira le feu calcinatoire il commencera à fumer. Alors on y projette successivement des petits morceaux de soufre il reçoit la chaleur sulfureuse et se coagule en argent le plus fin dont on peu faire journellement quelques livres.

L'esprit de vin, ou d'autres esprits, doivent être tout simplement cuits et figés en sel, ce que tout prétendu Chimiste ou Alchimiste ne fera jamais par le feu matériel qui brûle et consume tout. Toutes ses peines, tous ses travaux sont et seront nuls. Il ne fera jamais rien de bon, le feu matériel étant diamétralement opposé à celui de la nature. Si donc vous faites attention à notre feu de nature, vous opérerez votre fortune et bonheur.

#### La pierre particulière des sages.

Nous allons continuer sous l'auspice de Dieu à faire la description de ce que c'est que la pierre particulière des sages, et comment la faire.

Vous voyez dans notre observation *Meteorica Sagaci* d'où viennent la rosée, les vapeurs, les frimas, c'est à dire, de la région supérieure et de l'esprit universel. Toutes choses sont créées moyennant lui et sortent de lui. Elles sont jetées sur nous par l'air commun, et se manifestent ensuite comme des corps visibles et compréhensibles.

Par exemple, en hiver, nous prenons l'air cristallin, gelé et attaché aux arbres, aux haies, dans le printemps et l'automne, la rosée. Nous l'exposons dans des capsules de verre ouvertes sous notre feu magique de nature, et nous le réduisons par la cuisson en un sel astral. Puis nous le calcinons par un degré plus fort de notre feu jusqu'à finité, et qu'il ne fume plus. Alors nous lui appliquons le foyer entier de notre feu, moyennant quoi nous le fondons en une pierre ronde constellée et vitrifiée, qui est pleine des plus belles couleurs et de biens autres choses merveilleuses.

Quoique cette pierre astrale possède de grandes beautés et des vertus incroyables, il s'en faut cependant beaucoup qu'on puisse la comparer à notre pierre universelle. On peut faire de la première une teinture particulière, si on la met de nouveau en fusion avec partie égale d'or, ou d'argent pour son ferment.

Si le ferment est l'or, une partie convertira en or au moins trois mille parties d'argent. Si le ferment est l'argent, une partie de la teinture convertira mille parties de mercure en argent.

#### Secretum Secretorum ou la vérité rendue compréhensible.

Ce que c'est que notre ci-devant mentionné *spiritus mundi*, quelles sont ses qualités et vertus, dont nous ferons *meteorice*, brièvement la description ci-après.

Sachez que personne ne pourra élaborer le grand mystère sans connaissance de notre esprit du monde et de notre feu magique philosophique de nature. Nous parlons ici du grand secret de tous les secrets qui a eu son commencement des vertus divines et éternelles, et qui l'aura jusqu'à la fin des siècles. Ainsi vous tous qui désirez ardemment de vous occuper de ces choses divines, commencez par vous rendre digne du partage de l'esprit de Dieu, afin que vous obteniez de lui la lumière de la sagesse et sa grâce éternelle.

Nous disons donc que *meteorica minor* [sic] n'est autre chose dans sa génération que *meteorica sagax*. De ce chaos philosophique s'engendrent dans la région supérieure les pluies. Mais ces pluies ne parviennent pas jusqu'à nous comme pluies, mais bien comme des vapeurs, des Chay[?] des quelles émane la rosée. Tous ces choses ne se versent pas sur nous avec une substance, car elles sont spirituelles. Elles forment aussi le tonnerre, la foudre, mais ne frappent pas sur notre terre par leur trop grand éloignement. Leurs espèces et leurs parties se répandent dans l'élément supérieure de

l'air. C'est alors qu'elles tombent sur les globes, de manière que *sagax* engendre du sang, des métaux etc., *dragones, halones, apparitions, similitudines, figuras, etc.* Toutes ces choses émanent d'en haut, lors qu'elles viennent sous les *interstitia media*. Quelquefois elles sont consumés et dispersées par les *meteorica minora*.

Dans cette *meteorica sagaci* se trouve la teinture des métaux, *Gemmarum*, et d'autres couleurs. De cet olympe émanent toutes les couleurs. Dans cet olympe réside *Vulcanus meteoricus*, qui est le *genitor* de toutes les couleurs, de toutes les teintures, etc.

De la *meteorica sagax* sort *conjonctio teinturae in corpora elementata*. Ainsi naissent dans cette *meteorica* les pluies par la coction, *in mediis intersticiis*. Là se trouve l'esprit du monde qui coagule tous les corps des métaux, ceux des pierres précieuses et imparfaites, etc. Car de cet esprit partent les rayons des congélations par les rayons du soleil et s'insinuent, en toutes choses, de manière qu'il en résulte un *creatum*. Ceci est donc *sagax meteorica* et le vrai *membrum scientiarum sideris*. Il est aussi notre véritable *ens* philosophique que nous devons recueillir dans le temps d'une belle chaleur du soleil, lors qu'il y a un jour clair, pur, et non pas venteux, ou nébuleux.

On ramasse surtout cet esprit en plus grande quantité et en meilleure qualité dans des temps chauds et lourds où l'on doit s'attendre à des orages.

Toutes ces connaissances sont de grands secrets et mystères divins: et croyez que, si votre esprit ne les sent, ni ne les comprend pas, Dieu ne vous a pas destiné à ces œuvres. Dans ce cas vous ferez bien d'y renoncer et de vous borner à suivre l'état qui vous est propre, de marcher dans la crainte de Dieu pour finir vos jours à son honneur et gloire. Amen.

#### Du grand feu lunaire froid.

Ayant indiqué fidèlement et clairement dans nos précédents arcanes divins tout ce qui regarde notre principale machine solaire, nous traiterons ici du grand feu lunaire, et vous enseignerons les vertus miraculeuses vraiment divines qui y sont renfermées. Personne n'ignore que par la volonté du Créateur, toutes choses créés des deux grands luminaires solaire et lunaire de la nature, qu'elles s'y maintiennent par un ordre sympathique que leur est imprégnée, afin que tout tende à la gloire de Dieu et à l'utilité de l'homme.

Le Créateur a établi une telle disposition, un tel ordre, permanent dans ses œuvres de la nature, dans tous les êtres et espèces créés, que rien ne parvient à sa maturité et perfection avant les temps qui lui est prescrit si ce n'est qu'on se trouve en état d'aider à la nature par l'art. Si nous disons par l'art nous voulons entendre et parler de notre machine solaire et lunaire, car sans leur aide et moyen le tout marcherait dans

l'ordre naturel des choses, et rien ne pourrait être produit avant le temps présent, ni être amélioré et multiplié.

Par cette raison nous vous instruisons de nouveau de ce que c'est que notre machine solaire, et comment en très peu d'heures on peut devant cette machine porter dans la dernière et la plus haute perfection tous les minéraux, perles et autres, et les convertir en des pierres précieuses dont il est impossible de taxer la valeur: ce que les expériences détaillées ci-après vous indiqueront plus amplement.

Toutes les opérations qu'on veut entreprendre avec nos machines universelles doivent se faire suivant la nature, et dans un tel ordre même que chaque espèce puisse se réjouir de la nature de son semblable, afin que toutes les choses corporelles retournent dans leur centre, leur premier principe, et qu'elles deviennent *ens primum* ainsi qu'elles étaient dans leur commencement sans destruction de leurs liens de vie, ou de leurs racines, de quoi nous avons déjà parlé dans nos arcanes divins.

Nous exposons donc ici quelques expériences comment porter par notre machine lunaire dans leurs premiers principes, ou matière première, toutes les eaux gelées, tous les cristaux, coraux, perles, nacres de perles et généralement tous les minéraux et pierres précieuses de quelque dénomination et nature qu'elles puissent être.

1. Nous étendons notre machine lunaire, et commençons à exposer devant elle pour une opération un cristal ordinaire et commun dans un vase bien propre et commode, et laissons rayonner sur lui le foyer. Alors ce cristal sans beaucoup de mouvement se réduira et se calcinera en une poudre très pure et blanche par son propre feu froid qui lui est inné, et cela dans une heure de temps. Puis nous exposons ladite poudre ainsi calcinée sous notre principale machine solaire, et nous lui donnons le foyer entier, alors elle se fondra en une pierre vitrifiée éternellement fixe. Ceci sera donc une pierre précieuse, jouant beaucoup de couleurs et résistant à toutes les épreuves. Elle ne se fond pas dans le feu matériel, ni ne se casse, ni ne change jamais dans ses couleurs. Nous en parlerons encore, lors que nous nous occuperons d'indiquer les teintures des pierres précieuses.

2. Même opération se fait avec les coraux. On commence par les réduire devant notre machine lunaire, ainsi que nous l'avons indiqué ci-dessus à l'occasion des cristaux. Puis on les fond devant la machine solaire. Il en résulte une pierre vitrifiée d'un rouge brillant et noble qui en la portant sur soi pour la santé, est inappréciable. Cette pierre est une amulette inconcevable contre toute espèce de sortilège.

3. On agit de la même manière à l'égard des perles. On en calcine une bonne quantité devant la machine lunaire, en les réduisant ainsi en poudre. Puis, on fond la

poudre devant la machine solaire. Voyez à cet égard ce que nous avons dit dans nos arcanes divins.

4. On calcine de la même manière des nacres, de perles, l'*alumen plumosum*. Tout devient pierres précieuses qui jouent toute sorte de couleurs, et aussi belles, qu'on taxera d'un prix très haut, sans que jamais on puisse deviner ce qu'elles étaient auparavant.

#### Les pierres précieuses.

Diamants, émeraudes, adamas, magnés, marguerites, jacinthes, saphirs, rubis, escarboucles, coraux, chrysophages. C'est une pierre que rayonne tout de feu dans la nuit, en jouant sur l'or pendant le jour.

1. Calcinez beaucoup de petits diamants, ainsi que je vous l'ai ci-devant indiqué, sous notre machine lunaire, car sans l'application de ce feu froid vous ne ferez rien sur le diamant. Puis fondrez ensemble ces pierres calcinées devant notre machine solaire, et vous en aurez fait une grande pierre, ce qui certainement est un chef d'œuvre de notre art, car la pierre est créée de nouveau sans tache. En portant cette pierre sur soi, elle procure des honneurs et des faveurs auprès des grands.

2. L'émeraude peut être régénérée de la même manière. Elle devient plus brillante et plus belle qu'elle n'a été auparavant. C'est une pierre verte transparente. Elle est bonne pour les yeux et pour la mémoire. En la portant sur soi: elle conserve la chasteté et ce qui est plus surprenant, elle se casse en la transgressant.

3. Adamas doit être régénéré pour la même méthode. Cette pierre est aussi appelée diamant, et *Evax*, parce qu'elle est plus dure. Elle procure de la joie.

4. Magnès est une pierre ferrugineuse. Étant régénérée, elle devient tellement exaltée en force que si vous lui approchez un morceau de fer, vous ne pourriez plus l'en détacher. Elle tiendra beaucoup de quintaux de fer suspendus en l'air. En pilant cette pierre entre deux pierres en poudre, elle possède la vertu d'arrêter dans l'instant toutes les diarrhées quelconques, en n'en prenant qu'un grain.

En projetant un grain de cette pierre sur 1000 grains de Jupiter, de Vénus ou de Saturne en fusion, le tout se convertit en fer. Le soufre de cette pierre est aurifique et teint en or.

5. Marguerite est une pierre blanche. Elle croît dans les coquilles. Étant régénérée, elle possède de grandes vertus, de manière que hommes et animaux l'aiment et la suivent. Si vous frottez le bec d'un oiseau avec cette pierre, il vous suivra toute la vie et ne vous quitte plus.

6. Jacinthe est une pierre jaune. Régénérée par nos deux machines sa beauté sera exaltée au point qu'elle devient inappréciable. Elle possède la vertu de garantir l'homme de toutes les bêtes sauvages. On peut dompter par elle les lions et les tigres.

7. Les rubis acquiert dans sa régénération un rouge si beau qu'il sera hors de prix. Ses vertus sympathiques procurent amitié, et d'être agréable à tout le monde.

8. L'escarboucle est la pierre du soleil. Elle joue de la lumière comme le soleil. Étant régénérée, son éclat et sa lumière sont augmentés bien au-delà du double, de manière qu'elle éclairera un endroit jour et nuit. Cette pierre régénérée est inappréciable. Elle approche le plus près de la pierre philosophale. Elle renferme généralement en elle toutes les vertus de toutes les autres pierres précieuses. Elle possède en elle le supérieur et l'inférieur, c'est à dire, le céleste et le terrestre.

9. Calcédoine est une pierre de beaucoup de couleurs entremêlées et troubles qui dans la régénération deviennent si brillantes et si belles que l'on peut la regarder comme une vraie merveille du monde. Cette pierre se fige et se vitrifie compacte et dure comme un diamant. En la portant sur soi elle est un préservatif contre toute maladie.

10. Topaze est une pierre qui brille la nuit et jette un très grand feu. Étant régénérée, elle attire du soleil un tel éclat qu'on peut la comparer à l'escarboucle. Tous les spectres se retirent devant sa clarté, ainsi que tout ce qui habite dans les ténèbres.

11. Améthyste acquiert dans la régénération un éclat rouge, brillant, entremêlé de jaune. Elle se vitrifie très dure. Sa vertu sympathique vous rend agréable à tout le monde.

12. Chrysophage sort de la régénération infiniment brillant et présente toutes ses couleurs dans la plus grande beauté. Cette pierre acquiert la vertu d'éteindre le feu matériel. Elle annonce le beau et le mauvais temps. Si on la porte sur soi on est averti de la mort; car quelques jours avant, elle pâlit, elle se trouble, et à la fin elle se casse.

En voilà assez sur la perfection des pierres précieuses dans leur régénération par notre machine solaire et lunaire et les deux grands luminaires du monde.

#### De la transformation des pierres imparfaites.

Nous vous transmettons encore ici un très grand et plus important secret, savoir comment procéder pour transmuier et teindre les pierres imparfaites dans un très haut degré, de quoi nous avons déjà fait mention dans nos arcanes divins, en parlant de *l'alumen plumosum*.

*L'alumen plumosum* incombustible ne peut être altéré par aucun feu matériel, mais bien par nos deux grands luminaires de la nature du monde, car il renferme en lui le feu le plus fine de la nature. Ainsi nous prenons:



1. L'*alumen plumosum* et le calcinons devant notre machine lunaire en une poudre blanche très pure et fine. Puis nous la mettons en fusion devant notre machine solaire, afin qu'elle se vitrifie. Il sortira alors de la régénération avec un corps tellement clarifié en beau que rien ne peut être comparé à son éclat. Il est l'unique, la seule matière, et le seul feu fixe, dont on peut faire une teinture pour toutes les pierres précieuses, ainsi que nous vous l'avons déjà fidèlement indiqué dans nos arcanes divins.

2. Le talc se présentera presque de la même beauté dans la régénération. Notez qu'il y a à l'égard de cette matière à observer qu'elle flue sous la machine solaire au plus petit feu en une huile blanchâtre, lors qu'elle aura été calcinée devant la machine lunaire. Nous avons cru nécessaire de vous faire cette observation, parce que c'est une autre manière de faire l'huile de talc que celle indiquée dans nos précédents arcanes divins.

3. On peut préparer une pierre de l'eau commune de fontaine. Savoir: faites congeler l'eau dans un vase devant notre machine lunaire, afin qu'elle devienne glace. Ôtez-la alors de la machine lunaire, et remettez-la sous la même machine, de manière qu'elle soit continuellement frappée par le 3<sup>ème</sup> degré du foyer. Il se formera des cristaux. Donnez ensuite à ces cristaux le foyer entier qui les calcinera en une poudre sèche et blanche. Cette poudre exposée sous la machine solaire fluera comme de l'eau et se coagule ensuite en une pierre claire, vitrifiée, que l'on distingue à peine d'un diamant, hors qu'elle n'a pas la même dureté. Sachez donc qu'il faut lui aider par la teinture ci-dessus indiquée, et vous aurez complété l'art pour préparer de l'eau commune un diamant ou autre pierre précieuse.

#### Des minéraux et matières croissant dans la terre.

1. Commençons par l'élément du feu qui n'est autre chose qu'une minière vivante de soufre. Quand on expose cette minière devant notre machine lunaire sous le feu froid de la nature elle s'altère et tombe en une poudre brillante et cristalline, de façon que de son genre sulfureux elle acquiert un autre genre à cause de deux feux de nature froid et chaud. Mais exposant ensuite cette poudre sous la machine solaire elle se fond sur le champ. Puis entretenant plus longtemps la fusion, le soufre se vitrifie en une pierre cristalline qui s'insinue et entre dans les métaux et peut opérer *particulariter* très avantageusement. Si vous mettez ce soufre figé avec de l'or en fusion, ce dernier sera porté en un si haut degré qu'il ne parait plus or. Projetez-le ensuite sur de l'argent. Vous serez richement récompensé.

2. On regarde le mercure parmi les corps minéraux comme l'élément de l'eau. Il se coagule et se fige sur le champ par la machine lunaire. Ensuite exposé sous la machine solaire il se met promptement en fusion en un corps lunaire.

3. Le nitre est l'élément de l'air. Il tombe en poudre blanche devant la machine lunaire et se met en fusion comme de l'eau devant la machine solaire, et devient ensuite une pierre vitrifiée de la dernière fixité.

Faites ici une attention sérieuse sur cette pierre, et souvenez vous de ce que nous avons dit à cet égard dans nos arcanes divines. Vous parviendrez à un trésor impossible à apprécier. Si vous lui donnez de l'or pour ferment devant notre feu Magique de nature, vous posséderez assez de richesses, et de même pour la santé. Nous ne voulons pas en dire davantage. Cela doit vous suffire.

4. Nous regardons le vitriol, le sel gemme et le sel commun pour l'élément de la terre. Lors qu'on porte le vitriol dans une calcination philosophique par notre machine lunaire, et qu'on le met après en fusion par notre feu solaire magique de nature, il en résulte un verre d'un beau rouge. Puis on fermente ce verre avec de l'or, et on en obtient une teinture dont une partie teint plus de mille parties d'argent en or.

5. Nous allons vous indiquer encore comment tirer un plus grand partie de tous les minéraux et de quelle manière reproduire de chacun d'eux son *primum ens*. Sachez donc préalablement que les trois principes minéraux sont mercure, soufre, sel dans lesquels est renfermé et se trouve le *primum ens* des métaux qui est l'esprit vivifiant et croissant.

Comme vous trouvez le *primum ens* de l'or dans les marcassites, des grenats, dans le talc rouge aurifique: ainsi on trouve le *primum ens* de l'argent dans les marcassites blanches, dans le talc blanc, dans l'orpiment, l'arsenic, les litharges.

Le *primum ens* du cuivre se rencontre dans les cobalts, dans le zinc, dans le vitriol, l'atrament et le vert-de-gris.

Le *primum ens* de l'étain se trouve dans le Zwitter.

Celui du plomb dans l'antimoine et celui de minium.

Dans le cinabre seul est le *primum ens* de l'argent vif.

Le *primum ens* est un esprit volatil, croissant et vivifiant qui repose dans la matrice minérale jusqu'à ce que par le laps de temps et l'influence des saisons il devienne un corps métallique et fixe.

Faites ici attention et comprenez bien que c'est une espèce vivante qui repose là et sa tendre jeunesse spirituelle. C'est pour cette raison que nous soutenons l'impossibilité d'obtenir cet esprit ou ce *primum ens* par le feu matériel du bois et des charbons, ayant assez observé dans nos arcanes divins que le feu matériel détruit,

consume, anéantit toute vie aux choses vivantes. Ne sortez donc jamais hors. Agissez prudemment avec elle et par elle, et ne traitez ces œuvres qu'avec le feu vivifiant de la nature, d'où elles ont pris leur origine, et par lequel elles ont été créées et nourries.

Nous allons donc vous indiquer la manière de vous procurer spirituellement et corporellement ces esprits vivants par les deux grandes lumières du monde à l'aide de nos machines, à la gloire de Dieu et à votre avantage.

Nous prenons donc une desdites minières toute crue et fraîche de sa racine minérale et l'exposons sous notre machine lunaire et lumière vivante de la nature pour la calciner, sans détruire ses esprits vitaux et ouvrir par ce moyen la matrice dans laquelle repose le *primum ens*.

Puis nous renfermons cette matière calcinée dans une cucurbitte bien lutée que nous exposons devant notre machine solaire, et distillons avec une très faible chaleur du soleil. Alors l'esprit vivant passera par le chapiteau dans le récipient, dans toute sa virginité, et se présente comme un eau bleuâtre qui reste continuellement ensemble sans se quitter à l'instar du mercure commun. Mais dès que cet esprit prend l'air, il retourne subitement dans son chaos. C'est pourquoi on doit l'enfermer promptement dans un vase philosophique; lequel secret qui le retient et que l'on doit joindre à lui, n'est autre chose qu'un or, argent, ou autre métal vierge qui n'a pas encore senti, ni qui n'aura été purifié par le feu matériel, mais celui qui aura été pris immédiatement des mines. Ceci est le vrai vase philosophique dudit esprit à lui semblable dans lequel il se réjouit, se contient, et s'incorpore.

Nous vous observons qu'on ne pourra faire rien autre chose avec ce *primum ens* des minéraux que l'arbre d'or nommé arbre philosophique qui croît continuellement. Voici le procédé:

*Recipe* deux parties d'or, ou argent vierge, et une partie du susdit esprit minéral vivant que nous appelons aussi notre mercure Philosophique. Mettez-les ensemble dans un grand et beau cylindre de beau verre. Lutez-le bien. Déposez-le dans un endroit tempéré. Laissez-le là tranquille. Il croîtra des branches d'or, ou d'argent en 2, ou 3 mois, qui s'élèveront à l'instar des branches de coraux. Après ce temps, vous lui donnez de nouveau une nourriture par notre mercure philosophique. Puis vous laissez reposer autant de temps qu'auparavant. Répétez cette nourriture jusqu'à trois fois. À la fin l'arbre grandira tant qu'il remplira le verre avec beaucoup de beaux et petits rameaux. Il acquiert en même temps une vraie racine. Il est devenu alors le véritable arbre philosophique d'or, ou d'argent qui produit de mois en mois son or, ou argent vierge, et sera une riche récolte. Vous en ôterez avec une petite pincette pour votre usage, ainsi qu'il soit.

Pesez et notez exactement le poids des rameaux d'or que vous en aurez détachés, afin de nourrir de nouveau cet arbre philosophique avec autant de poids de mercure Philosophique. Par ce moyen vous conservez une récolte éternelle et un revenu riche sans frais et sans beaucoup de peine.

Considérez cette œuvre en tout et par tout, et convenez que c'est une véritable transplantation dans ses racines vivantes, suivant l'ordre divin. Dans la qualité agit la nature par l'esprit magnétique qu'elle possède en elle, cherchant à se multiplier et à reproduire ses semblables avec les parties vierges à la gloire de Dieu et pour le bien de l'homme.

Celui qui prétendrait opérer la même chose avec le mercure commun ou du cinabre, ou de l'or, ou de l'argent purifié par le feu matériel est un falsificateur des vertus de la nature, et il sera incapable d'entreprendre la moindre chose dans nos œuvres.

Pour faire connaître les plus grandes vertus de cet or vierge dont vous parlons, et qui n'aura jamais éprouvé le feu matériel, vous n'avez qu'à prendre cet or vierge, le mettre en fusion par notre machine solaire, entretenir la fusion jusqu'à ce qu'il soit vitrifié en un verre de cette écarlate. Donnez-lui ensuite un ferment d'or à poids égal pour en faire une teinture qui teint, quoique *particulariter* beaucoup plus qu'une teinture particulière faite de l'or commun, ainsi que nous en avant déjà fait mention dans nos arcanes divins.

En portant ledit or vierge sur soi, il est un incroyable fortifiant du cœur, et un préservatif singulier contre tout air infecte en d'autres maladies.

Observons encore que personne ne s'avise de prétendre pouvoir produire la pierre philosophale par le feu commun, ou la teinture universelle d'un pareil *primum ens mineralium*, car la pierre philosophale dérive d'un tout autre centre et d'une toute autre substance que le règne minéral. Chaque espèce, ou genre, porte sa semence particulière. C'est pourquoi toutes les choses créées doivent rester dans l'ordre que le Créateur leur a infusé. Chaque chose produira éternellement son semblable, si ce n'est que l'on sache aider la nature par la nature même. Cette connaissance est une lumière particulière que Dieu nous accorde et qui ne peut être exécutée qu'à l'aide des deux grands luminaires par leur influence astrale et par l'application de nos machines solaires et lunaires.

Nous vous disons donc ici de prendre ledit esprit vivant, c'est à dire ledit *ens mineralium*, de le réduire par la coction dans un vase ouvert jusqu'en un sel sec devant notre feu solaire et vivant de nature; puis de pousser la coction jusqu'en une pierre rouge comme le plus beau rubis vitrifié et fixé. Vous en obtiendrez alors une teinture qui peut être toujours augmentée par un ferment, et qui ne finira jamais. Mais malgré tout

cela il s'en faut de beaucoup que ce soit une teinture universelle, parce qu'elle n'a pas été prise de la racine universelle.

Enfin en finissant nos présents arcanes divins, nous chargeons la conscience de chacun qui en aura communication de n'en point abuser, et terminons ainsi toutes ces choses élémentaires qui sont temporelles, et qui seront consumées à la fin des jours, au lieu que, nous autres créatures humaines, pourvu que nous soyons justes, et que nous ayons vécu dans la crainte de Dieu, serons clarifiés en Dieu, entrant dans la béatitude éternelle pour louer et glorifier Dieu de siècles en siècles. Amen.

Nous allons encore joindre au présent quelques procédés curieux à exécuter par la machine lunaire. Savoir:

#### Une pêche plaisante.

S'il se trouve beaucoup des poissons dans un bassin profond, en même presque sans fond, difficile à pêcher, on n'a qu'à établir notre machine lunaire sur un petit bateau dans l'endroit où l'eau sera plus profond. On donne le foyer sur l'eau grand seulement comme un écu. Cela donne un grand éclat et fera monter tous les poissons en haut. On donne alors le foyer dans toute sa grandeur. Les poissons par ce moyen seront tout éblouis, de manière qu'on peut les prendre avec les mains, ou avec des instruments convenables.

#### Autre secret.

Calcinez du vitriol par la machine lunaire. Il devient d'un beau blanc et tombe en poudre. C'est alors la vraie poudre antipathique qu'on emploie dans différentes maladies.

La poudre d'hirondelles antipathique se prépare de la même manière.

En faisant congeler et engourdir une chauve-souris par la machine lunaire, l'opération sera faite: mais il sera mieux de la faire un jour de dimanche, parce que les chauve-souris sont saturnines au suprême degré. Avec cette poudre on peut détruire des sortilèges; mais aussi on peut en pratiquer, soit de bons, soit de mauvais.

#### Autre.

Quand la lune est pleine, on expose un grand miroir devant la machine lunaire, mais pas trop près, afin qu'il ne casse pas. Vous y verrez représentés la lune entière, étoiles, paysages, des montagnes, des vallées, de l'eau, du feu, et dans ce dernier mille et mille figures affreuses se remuant avec plus de vitesse les unes que les autres. Leur

regard occasionne une vue effrayante. Les ténèbres peuvent y être supérieurement bien observées.

Établissement curieux d'un fond d'écrevisses moyennant lequel elles se multiplient beaucoup et deviennent grands et grasses: et que d'un pareil étang, ni écrevisse, ni poisson ne puisse s'en échapper, si un ruisseau même d'eau vive passait au milieu.

Faites creuser un étang de la grandeur qu'il vous plaira. Faites-le muré tout autour avec des grandes briques. Faites mettre dans le sol au milieu de l'étang de grandes poutres d'Erkenholz (en allemand). Les écrevisses aiment singulièrement cette espèce de bois. On plante tout autour de l'étang une herbe nommée Liebstö[c]kel en allemand. Cette herbe acquiert de grandes racines qui en majeure partie, en croissant, s'étendent vers l'eau. Les écrevisses en mangent et deviennent très lubriques, au point qu'elles se multiplient en peu de temps par milliers. Il faudrait faire passer par l'étang un petit ruisseau d'eau vive courante, afin que l'eau reste toujours fraîche aux endroits où ce ruisseau entre et sort. On fait poser quelques pierres d'aigle des deux cotés de l'entrée et de la sortie du passage, car la pierre d'aigle est antipathique à toutes les espèces aquatiques. Arrivées au passage, elles se retirent. Après avoir déposé dans l'étang des écrevisses à volonté, et qu'elles se sont multipliées, on doit les engraisser de la manière suivante.

Si par exemple vous avez mis 300 écrevisses, on jette dans l'étang, au moins une fois par mois, une livre de fromage nouveau par petits morceaux, et 2 ou 3 œufs cuits et coupés en quatre. On leur jette aussi de temps à autre du foie cru. Avec cette nourriture les écrevisses grossissent et s'engraissent singulièrement leur goût et devient exquis.

Établissement d'un fond d'eau par le moyen duquel on peut réunir beaucoup de sources et les augmenter.

*Recipe* une livre de la vraie pierre d'aimant, une demi-livre d'alun. Faites bien rougir au feu l'aimant deux à trois fois, en l'éteignant chaque fois dans du vinaigre. La pierre deviendra cassante et friable. Pilez-la en poudre. Puis calcinez l'alun dans un pot de terre jusqu'à ce qu'il soit devenu tout brun. Pilez-le en poudre. Mêlez ces deux matières. Humectez-les avec de l'eau ordinaire. Faites en de grosses boulettes de la grandeur d'un florin (d'un petit écu). Séchez-les au soleil. Devenues sèches, vous les mettez dans un fourneau à vent, ou devant le foyer d'un maréchal pour les faire bien rougir. Laissez-les refroidir. Le fond d'eau sera ainsi préparé. Notez que si vos deux livres d'aimant ou d'alun ne voulaient pas se bien lier pour enfermer les boulettes, on peut y mêler un peu de terre de potier pour les faire tenir bien ensemble.

Si donc vous voulez augmenter les eaux et réunir quelques sources pour couler ensuite par des cavités légères qu'elles formeront elles-mêmes, il faut bien d'examiner le terrain où coulent les sources qui seraient éloignées de 50 à 60 pieds l'une de l'autre: observant ensuite d'attaquer toujours en premier lieu la plus faible, en y enfonçant un fort bâton de fer au milieu du trou de la source, et cela à la profondeur de trois pieds, et même plus, suivant que le terrain le permettra. On jette après dans le trou qu'a fait le bâton de fer une des boulettes ci-dessus, la laissant ainsi tranquille. La boulette opérera une ouverture en peu de jours. L'eau montera et coulera par un ruisseau qu'elle se forme elle-même et qui augmente de plus en plus.

Il faut observer qu'on doit toujours entreprendre cette opération dans le croissant de la lune, car toutes les eaux augmentent et diminuent avec la lune.

### ***Fin des arcanes divins.***

#### **Pour faire l'or artificiellement.**

Ce n'est pas seulement en creusant et fouillant dans les entrailles de la terre qu'on trouve l'or. L'art peut bien imiter la nature en ce point, puisqu'il la perfectionne en bien d'autres choses. Je dirai donc ici ce qui a été éprouvé une infinité de fois et qui est devenu très commun entre ceux qui travaillent au grand œuvre.

Vous aurez donc un grand creuset qui soit à l'épreuve du plus violent feu, et l'ayant mis sur un fourneau bien ardent, vous mettrez au fond dudit creuset de la poudre de colophane de l'épaisseur du petit doigt. Vous saupoudrez sur cette colophane l'épaisseur d'un doigt d'une fine poudre de limaille de fer. Vous couvrez cette limaille d'un peu de soufre rouge. Vous pousserez le feu du fourneau jusqu'à faire fondre liquidement la limaille de fer. Puis, vous y jetterez du borax dont usent les Orfèvres pour fondre l'or. Vous y jetterez pareille quantité d'arsenic rouge et autant pesant d'argent qu'on y a mis de limaille de fer. Laissez cuire cette composition, en poussant le feu du fourneau. Prenez garde de respirer l'air du creuset à cause de l'arsenic. Vous aurez un autre creuset dans lequel vous verserez par inclination la matière recuite que vous aurez auparavant bien mélangée avec une spatule de fer, et vous ferez en sorte qu'elle coule dans ce second creuset purifiée et sans ordure. Par le moyen de l'eau de séparation l'or se précipitera au fond; quand vous l'aurez recueilli vous le ferez fondre au creuset, et aurez de bel or qui vous dédommagera de vos peines et dépenses.

#### **Pour rendre aux estampes noircies et enfumées leur premier éclat.**

Il faut les rouler lâchement, et dans cet état les exposer dans un bocal oblong à la vapeur de l'acide marin oxygéné, ou déphlogistiqué.

Le propre de cet acide est de détruire toutes les couleurs quelconques et par conséquent de rendre au papier toute sa blancheur; mais il n'agit pas sur le noir de la gravure, parce que c'est une huile cuite.

On a trouvé le moyen d'employer l'acide en question dans les manufactures de toile pour blanchir très vite.



[Diagram p. 348]

Désignation des dominations et planètes sous la puissance desquelles sont toutes les autres.

<b>Dimanche</b>	Soleb	A	Soleil
<b>Lundi</b>	Phuel	B	Lune
<b>Mardi</b>	Phaleg	E	Mars
<b>Mercredi</b>	Opheël	C	Mercure
<b>Jeudi</b>	Beltor	F	Jupiter
<b>Vendredi</b>	Stagit	D	Vénus
<b>Samedi</b>	Aratron	G	Saturne
Dessein de la forme de notre machine			

[Diagram p. 349]

<b>Le matin</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
Dimanche	A	D	C	B	G	F	E	A	D	C	B	G
Lundi	B	G	F	E	A	D	C	B	G	F	E	A
Mardi	E	A	D	C	B	G	F	E	A	D	C	B
Mercredi	C	B	G	F	E	A	D	C	B	G	F	E
Jeudi	F	E	A	D	C	B	G	F	E	A	D	C
Vendredi	D	C	B	G	F	E	A	D	C	B	G	F
Samedi	G	F	E	A	D	C	B	G	F	E	A	D
<b>L'après-midi</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
Dimanche	F	E	A	D	C	B	G	F	E	A	D	C
Lundi	D	C	B	G	F	E	A	D	C	B	G	F
Mardi	G	F	E	A	D	C	B	G	F	E	A	D
Mercredi	A	D	C	B	G	F	E	A	D	C	B	G
Jeudi	B	G	F	E	A	D	C	B	G	F	E	A
Vendredi	E	A	D	C	B	G	F	E	A	D	C	B
Samedi	C	B	G	F	E	A	D	C	B	G	F	E

Explication du cours des planètes; comment elles l'achèvent, tant pendant le jour que pendant la nuit ainsi que leur jour et heure.

## Translation of pages 379-407, 348, 349 to English

All footnotes are translator's notes.

### The basic rule for constructing our machine.

Our burning-glasses must be made of the purest and finest material and must then be very highly polished. The larger these burning-glasses are the more powerful they will be: this will enable them to start a procedure promptly and complete it more effectively.

Their size will however be sufficient for all the operations we have described above if the principal burning-glass is 24 inches in diameter and 3 inches in the middle<sup>5</sup> and if the collecting-glass is 12 inches in diameter and 2½ inches in the middle, for the excessive strength of the heat, of whatever nature, can damage and overwhelm those smaller kinds of glasses that it was impossible to perfect, something we can also observe, as a comparison, when a summer has been exceptionally warm and dry. That is why each operation must be planned according to its type and the degree of heat that it requires.

If you require fusion-heat, then the entire focus must be allowed to fall upon the exposed matter. If you require calcinatory-, digestive- or distillatory-heat then you must adjust the exposed machine by several degrees, as we have shown in the drawing, in whatever proportion will be necessary, either backwards or forwards, something that experience will readily teach you.

### Details.

For the love of God and for the benefit of the starveling poor we here provide certain details that may provide sustenance to the latter, so that the mercy and almighty power of the Supreme Being may be increasingly recognised and so that thanks are rendered to Him alone for all the blessings that He has bestowed upon us.

1. Take some fine gold (as much as you can afford) and place it on a smooth stone which is exposed to the heat beneath our machine. Now increase the heat gradually. At the end of the process apply the entire focus. The whole mass will melt together and vitrify to form a fiery-red glass resembling a ruby. It will also increase in weight. Now weigh this solar glass. Add some fine gold, the weight of which should be ten times the weight of the solar glass. Melt the whole mass on a small flat crucible. A highly friable scarlet powder will be formed.

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<sup>5</sup> I assume that this is the thickness of the convex lens at its centre-point.

One grain of this powder projected onto 100 grains (or even more) of silver will tinge the whole of it the best gold. This entire operation is completed beneath our machine in 2 to 3 hours using our magic natural heat.

#### Another important detail.

2. Take some sal ammoniac. Calcine it to remove all the moisture and then mix into it a small amount of dry potter's clay. Form some small dense pellets like garden-peas. Dry the pellets. Now push them *per descensum*<sup>6</sup> under our machine for distillation by our natural heat. This will give you your extraction-menstrue.

If you then pour this menstrue onto some of the gold that has been calcined by the pebbles as described above the latter will immediately extract the sulfur from it. Next distill within the menstrue. The solar sulfur or *anima solis*<sup>7</sup> will remain at the bottom of the glass.

This solar sulfur is dissolved by the smallest degree of solar heat that we can apply to it beneath our machine to form a dark red oil. Now increase the natural heat to coagulate and solidify the oil. This will produce a tincture, one part of which will transmute more than 1000 parts of silver into gold.

#### Other details.

3. Melt together some silver and gold *ana*<sup>8</sup> beneath our natural heat machine. Project a little common sulfur onto the mixture and continue with this procedure until it resembles a clinker that is red all over. In this operation Venus with her sulfur will fix the cold Lunar woman and enter with her into the fixed solar house of honour.

The same procedure can be followed for all the other metals.

We do not wish to dwell any further upon this point but prefer instead to discuss something that can be beneficial to the health by showing you how to prepare the precious Potable Gold.

#### Potable Gold.

Use natural heat to melt six parts of fine gold beneath our machine using natural heat. After fusion, partially withdraw the gold and apply calcinatory-heat. Project a little common sulfur. Gradually pulverize the six parts of gold in turn. Stir continuously with a glass rod. The gold will open up, inflate, rise and become highly porous. Continue

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<sup>6</sup> A method of distillation in which the heat is applied from above rather than below the substance to be heated.

<sup>7</sup> Literally 'soul of the Sun'.

<sup>8</sup> i.e. taking an equal amount of each.

calcination until the whole mass is scarlet and it has become possible to crush it into a very fine powder.

Pour the powder into some good-quality wine or spirit of wine. It will immediately dissolve. It colours the wine a beautiful red and so becomes potable.

If however you wish to make the gold corporeal again, expose it in a glass capsule and place this beneath our natural heat to reduce it by coction. You will then obtain a body in the form of a sulfur of gold which will dissolve very gently into an oil of gold.

Coagulating this oil produces a special tincture, one part of which can tinge more than 1000 parts of silver into pure gold.

A similar procedure can be followed to render all the metals potable. What is surprising about this operation is that the blessed Spirit of the World ensures that every type of matter increases and improves when it is subjected to our natural heat.

Note that, during calcination, the sulfur opens up the pores of the metals, and also that the metals, by attracting the Universal Spirit of the World, become very fluid and liable to dissolve in wine or spirit of wine, thus becoming potable.

All minerals, as well as corals, agate etc., can be reduced to a liquor by our philosophical calcination.

#### Fixing and coagulation of quicksilver, the spirit of wine, and other spirits.

Further to what we have said above we must also tell you how to use our natural heat to fix and coagulate beneath our machine substances such as quicksilver, spirit of wine and other spirits, as follows:

Place the quicksilver in an open glass capsule or on a crucible and place it beneath our machine. Immediately the quicksilver feels the calcinatory-heat it will start to smoke. Now project small pieces of sulfur onto it one by one. The quicksilver will receive the sulfurous heat and coagulate into the finest silver, several pounds of which can be made every day.

Spirit of wine or other spirits must simply be boiled and fixed in salt. No one claiming to be a serious Chemist or Alchemist would ever use material fire for this purpose as this type of fire just burns and consumes everything, and all his work and effort would come to nothing. Such a person will never achieve anything, as material fire is diametrically opposed to natural fire. If, therefore, you dedicate yourself to the use of our natural heat you will make your fortune and bring yourself great happiness.

### The special Stone of the Wise.

Under God's auspices we shall now describe the special Stone of the Wise and how it is made.

Our commentary called *Meteorica Sagaci*<sup>9</sup> explains where dew, mist and frost come from, i.e. from the upper regions and the Universal Spirit. Everything is created with its assistance and everything emanates from it. It is then projected onto us by the common air, and subsequently manifests as visible and comprehensible bodies.

In winter, for example, we take some of the air in crystalline form, for it will be frozen and attached to trees and hedges, whereas in the spring and autumn we take some dew. We then expose this in open glass capsules to our magic natural heat and reduce it by coction to an astral salt. We then calcine it by increasing our natural heat until finition, when it no longer smokes. We now apply to it the whole focus of our heat, which melts it into a round, constellated and vitrified stone which displays the most beautiful colours and many other wonderful characteristics besides.

Although this astral stone has great beauties and incredible virtues it certainly cannot be compared with our universal stone. It can however be used to create a special tincture if it is again subjected to a fusion process with an equal part of gold or silver as a leaven.

If the leaven used is gold then one part will convert at least 3000 parts of silver into gold. If the leaven is silver then one part of the tincture will convert 1000 parts of mercury into silver.

### Secretum Secretorum or the truth made comprehensible.

Below we briefly describe the *spiritus mundi*<sup>10</sup> to which we have just referred and describe its qualities and virtues, which we will discuss *meteorice*<sup>11</sup>.

You must understand that no one will ever be able to perform the great mystery without a knowledge of our Spirit of the World and our magic philosophical natural heat. We are speaking here about the great Secret of all Secrets, which had its origin in the divine eternal virtues and which will give evidence of that origin until the end of time. So all those of you who are eager to concern yourselves with these divine matters should begin by making yourself worthy to share in the spirit of God so that you can obtain from Him the light of wisdom and His eternal grace.

We therefore say that, in terms of its generation, *meteorica minora*<sup>12</sup> is nothing other than *meteorica sagax*<sup>13</sup>. Out of this philosophical chaos the rains are generated in

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<sup>9</sup> 'Meteorology for the ingenious'.

<sup>10</sup> 'The spirit of the world'.

<sup>11</sup> 'In meteorological terms.'

the upper regions. But these rains do not come to us in that form but rather as mists and Chay[?] from which the dew emanates. All these things will not rain down on us in the form of a substance because they are spiritual in character. They also form the thunder and lightning, but due to their excessive remoteness they do not actually strike our earth. Their species and parts are distributed in the higher element of the air. They then fall onto the spheres in such a way that the *sagax*<sup>14</sup> generates blood, metals etc., as well as *dragones, halones, apparitiones, similitudines, figuras*<sup>15</sup>, etc. All these things emanate from on high when they come beneath the *interstitia media*<sup>16</sup>. Sometimes they are consumed and dispersed by the *meteorica minora*.

This *meteorica sagaci* covers the tincturing of metals, *gemmarum*<sup>17</sup>, and other colours. It is from this Mount Olympus that all the colours emanate, and it is upon this Olympus that *Vulcanus meteoricus*<sup>18</sup> resides, he who is the *genitor*<sup>19</sup> of all colours, all tinctures, etc.

From *meteorica sagax* there emanates the *conjunctio tincturae in corpora elementata*<sup>20</sup>. Thus the rains are born in this *meteorica* by coction *in mediis intersticiis*<sup>21</sup>. It is there that the spirit of the world is found, which coagulates all the bodies of metals and those of the precious and flawed gemstones, etc., for it is from this spirit that the rays of the congelations emanate through the rays of the sun. These penetrate all things in such a way that a *creatum*<sup>22</sup> arises. This is therefore the *sagax meteorica* and the true *membrum scientiarum sideris*<sup>23</sup>. Like our true philosophical *ens*<sup>24</sup> we have to collect it when the sun is shining brightly, and when the weather is fine and clear, and not windy or cloudy.

This spirit can be collected in greater quantity and in better quality in hot and heavy weather conditions, when storms are expected.

All this knowledge contains great secrets and divine mysteries. Please believe me when I say that if your mind is not responsive to them or does not understand them then it means that God did not intend you to pursue this work. In this case you would be better off giving it up and confining yourself to the status in life that is fit for you, namely

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<sup>12</sup> 'The lesser meteorological phenomena'.

<sup>13</sup> 'The ingenious meteorological phenomena'.

<sup>14</sup> 'The ingenious one.'

<sup>15</sup> 'Dragons, mysterious glows, apparitions, mirages, phantoms.'

<sup>16</sup> 'The middle interstices.'

<sup>17</sup> 'Of gems'.

<sup>18</sup> 'Vulcan the weather-bringer'.

<sup>19</sup> 'The father, the creator, the progenitor'.

<sup>20</sup> 'The conjunction of the tincture into elemented bodies'.

<sup>21</sup> 'In the middle interstices'.

<sup>22</sup> 'A creation, a created thing'.

<sup>23</sup> 'Member of the sciences of the star[s]'.

<sup>24</sup> 'The primum ens, the original essence'.

walking in the fear of God and ending your days working for his honour and glory.

Amen.

The great cold lunar fire.

In our preceding Divine Mysteries we described faithfully and clearly everything about our main solar machine. Now we shall deal with the great lunar fire and teach about you the truly miraculous divine virtues that are concealed there. Everyone knows that, by the will of the Creator, all things that are created from the two large natural solar and lunar luminaries are maintained there by a sympathetic order that is impregnated into them, so that everything tends to the glory of God and to the utility of man.

The Creator established such a provision and such an order (which is permanent in the works of nature and in all created beings and species) so that nothing can reach its maturity and perfection before certain times prescribed to it, unless, that is, a way can be found of assisting nature through art. When we say 'through art' we mean through our solar and lunar machines, for without their aid and assistance everything would simply follow the natural order of things and nothing could be produced before the present time nor ever be improved and multiplied.

For this reason we shall once again tell you about our solar machine and how in a very few hours one can, beneath this machine, bring to the ultimate and highest perfection all minerals, pearls and other things and convert them into precious stones, the value of which it will be impossible to estimate. The experiments that we describe in detail below will explain this to you more fully.

All the operations that you wish to perform with our universal machines must take place in accordance with nature and in such a manner that each type of substance can delight in the nature of its likeness, so that all corporeal things return to their centre and to their first principle, and so that they become the *ens primum*<sup>25</sup> as they were in their beginning, without the destruction of their bonds of life or their roots (matters which we have already spoken about in our Divine Mysteries).

We therefore explain here certain experiments which use our lunar machine to reduce to their first principles or raw material all frozen waters, crystals, corals, pearls and mother-of-pearl and, in general, all minerals and precious stones, whatever their name and nature.

1. Start by setting up the lunar machine. For the purpose of this operation, expose to it an ordinary common crystal placed in a clean and ample vase. Allow the focus to radiate upon it. Within just one hour and without much movement the crystal

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<sup>25</sup> 'The first essence, the primary essence'.



will be reduced and calcined by its own innate cold fire to a very pure white powder. Now expose the powder in its now calcined state beneath our principal solar machine and apply the whole focus to it. It will then melt into a permanently fixed vitrified stone. This will be a precious stone, displaying many colours and proving resistant to all tests. It will not melt in material fire, neither will it shatter or ever change colour. We shall refer to this stone again when we come to describe the tinctures of precious stones.

2. We can perform the same operation with corals. Start by reducing them beneath our lunar machine using the procedure described above for crystals. Now melt them beneath the solar machine. A vitrified stone of a brilliant and noble red will result. Carried on the person it is of inestimable value for health. It is also an incredibly powerful amulet that protects against all kinds of magic.

3. Proceed in the same way with pearls. Calcine a good quantity of pearls beneath the lunar machine to reduce them to powder. Now melt this powder beneath the solar machine. For the procedure, refer to what we have already said in our Divine Mysteries.

4. Mother-of-pearl, pearls and *alumen plumosum*<sup>26</sup> can all be calcined in the same way. They all become precious stones which display all sorts of colours and will be of such beauty that one would assign to them a very high price without ever being able to guess what they had been before.

#### Precious stones.

Diamonds, emeralds, white sapphires, magnesia, pearls, jacinths, sapphires, rubies, carbuncles, corals and chrysophages are all precious stones. These are stones that are afire during the night and show hints of gold during the day.

1. Calcine a large quantity of small diamonds beneath our lunar machine in the manner indicated above, for without this cold fire you will achieve nothing with the diamond. Now melt these calcined stones as a group beneath our solar machine. You will now have formed them into one large stone, which is certainly a masterpiece of our Art because the stone will have been re-created without flaw. If you carry this stone on your person then it will bring you honours and favours from wealthy and powerful people.

2. An emerald can be regenerated in the same manner. Regenerated, it becomes more brilliant and more beautiful than before. It is a transparent green stone. It is good for the eyes and the memory. Carried on the person it preserves chastity and, what is more surprising, it will shatter when that chastity is lost.

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<sup>26</sup> Soapstone.

3. A white sapphire must be regenerated by the same method. This stone is also called diamond and *Evax*<sup>27</sup> because it is harder than other stones. It is conducive to happiness.

4. Magnesia is a ferruginous stone. Regenerated, it becomes so exalted in power that if you place a piece of iron near it then you will never be able to detach it again. It can keep many quintals<sup>28</sup> of iron suspended in the air. Crushed to a powder between two grinding-stones and administered in a dosage of just one grain it has the power to immediately stop diarrhoea of all kinds.

Projecting a grain of this stone onto 1000 grains of Jupiter<sup>29</sup>, Venus<sup>30</sup> or Saturn<sup>31</sup> in fusion converts the whole mass into iron. The sulfur of this stone is auriferous and tinged with gold.

5. Pearl is a white stone. It grows in shellfish. Regenerated, it has great powers, so that men and animals are attracted to it and will follow it. If you rub this stone against the beak of a bird then it will follow you around all your life and never forsake you.

6. Jacinth is a yellow stone. Regenerated by our two machines its beauty will be so exalted that it becomes priceless. It has the power to protect man from all wild beasts and can be used to tame lions and tigers.

7. Regenerated, rubies acquire a redness so beautiful that they will be priceless. Their sympathetic powers help you to make friends and to be found attractive by everyone you meet.

8. The carbuncle is the stone of the sun, for it sparkles like it. Regenerated, its brilliance and light are much more than doubled so that it can actually be used to illuminate a place by night and day. This regenerated stone is beyond price. It is the stone that is nearest in character to the Philosopher's Stone. In general it contains within itself all the powers of all the other precious stones. It contains both the superior and the inferior, i.e., the celestial and the terrestrial.

9. Chalcedony is a stone of many intermingled and cloudy colours which, after regeneration, become so brilliant and beautiful that it can be regarded as a true wonder of the world. This stone fixes and vitrifies in a compact and hard form like a diamond. Carried on the person it protects against all diseases.

10. Topaz is a stone that shines in the night-time and always throws out a brilliant fiery light. Regenerated, it reflects the sun's rays so brightly that it can be

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<sup>27</sup> According to my information, *Evax* was actually the name of an Arab king who wrote a treatise on precious stones. Perhaps the author has misunderstood the source text?

<sup>28</sup> 1 quintal = 100 kg.

<sup>29</sup> Tin

<sup>30</sup> Copper

<sup>31</sup> Lead

compared with the carbuncle. All phantoms shrink from its pure brightness, as also any creatures that dwell in the shadows.

11. Through regeneration amethyst acquires a brilliant red lustre tinged with yellow. It vitrifies in a very hard form. Carried on the person its sympathetic power makes the wearer attractive to everyone.

12. Regenerated, chrysophage<sup>32</sup> shines infinitely and displays all its colours in the greatest beauty. This stone acquires the power to extinguish material fire. It also foretells both fine and bad weather. Carried on the person it forewarns of death, for a few days before that event it will start to fade and become cloudy and, finally, will shatter.

And that is quite enough about the perfecting of precious stones through regeneration by our solar and lunar machine and the two great luminaries of the world.

#### Transformation of flawed stones.

We are going to reveal to you here a very great and important secret, namely the procedure for transmuting and tingeing flawed stones to a very high standard, something that we have already mentioned in our Divine Mysteries when we discussed *alumen plumosum*.

The incombustible *alumen plumosum* cannot be altered by any material fire but only by our two great natural luminaries of the world, because it contains within itself the finest natural fire.

1. Take therefore the *alumen plumosum* and calcine it beneath our lunar machine to form a very pure and fine white powder. Now place it in fusion-fire beneath our solar machine so that it vitrifies. Regenerated, its body will be so beautifully clear that nothing can compare with its lustre. It is the unique and only matter, and the only fixed fire, from which one can make a tincture for all the precious stones as we have already faithfully described in our Divine Mysteries.

2. Regenerated, talc will display almost the same beauty. It should be noted that this substance liquefies at a very low heat beneath the solar machine to form a whitish oil after it has been calcined beneath the lunar machine. We thought it advisable to draw your attention to this as it is another way of making the oil of talc described in our previous Divine Mysteries.

3. A stone can be prepared from ordinary well-water. First cool the water in a vase beneath our lunar machine until it freezes. Remove it from the lunar machine and place it beneath the same machine so that it is continuously struck by the 3rd degree of

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<sup>32</sup> A mistake for chrysoprase?

focus. Crystals will form. Apply the whole focus to these crystals. This will calcine them to form a dry white powder. Now expose this powder to the solar machine. The powder will flow like water and then coagulate into a clear vitrified stone which is virtually indistinguishable from diamond except that it is not as hard. This process must be assisted by the application of the tincture described above. You will then have completed the task of preparing a diamond or other precious-stone from ordinary drinking-water.

Regarding minerals and materials that grow in the soil.

1. Let us start with the element of fire, which is nothing other than a living sulfur mine. When this mine is exposed to our lunar machine under cold natural heat it disintegrates and is deposited as a brilliant crystalline powder. In the process its sulfurous nature changes into a different nature because of the two natural fires, cold and hot. If, however, you expose this powder to the solar machine then it immediately melts. If fusion is maintained then the sulfur vitrifies to form a crystalline stone which can penetrate and enter metals and function *particulariter*<sup>33</sup> very advantageously. If this sulphur is fixed with gold in fusion then the gold will be raised to such a high degree that it no longer looks like gold. Now project it onto some silver and you will be richly rewarded.

2. Among the minerals, mercury is seen as corresponding to the element of water. It is immediately coagulated and solidified by the lunar machine. If it is then exposed to the solar machine it promptly goes into fusion to form a lunar body.

3. Nitre is the element that corresponds to the air. Exposed to the lunar machine it is deposited as a white powder. Exposed to the solar machine it goes into fusion like water and then becomes a vitrified stone of ultimate fixity.

If you study this stone carefully and remember what we said about it in the Divine Mysteries then you will acquire a treasure beyond price. If you apply some gold as leaven to it beneath our magic natural heat then you will never be short of money or suffer from bad health. We do not want to say anything more about this: what we have said must suffice.

4. We look to vitriol, rock salt and common salt for the element of earth. If you subject vitriol to philosophical calcination by our lunar machine and then place it into fusion by our magic solar natural heat then it becomes a beautiful red glass. This glass is then leavened with gold, and one obtains from it a tincture, one part of which tinges more than 1000 parts of silver to form gold.

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<sup>33</sup> 'In particular cases'.

5. We shall also describe how to extract a greater part of all the minerals and how to reproduce from each one its *primum ens*. You must first understand that the three mineral principles are mercury, sulfur and salt, and that in the last of these there resides and is confined the *primum ens* of the metals, which is the revitalising and growing spirit.

Just as one finds the *primum ens* of gold in marcassites, garnets and auriferous red talc, so one finds the *primum ens* of silver in white marcassites, white talc, orpiment, arsenic and the litharges.

The *primum ens* of copper is found in the cobalts, and in zinc, vitriol, atramentum and verdigris.

The *primum ens* of tin is found in Zwitter<sup>34</sup>.

The *primum ens* of lead is found in antimony, as well as that of minium.

The *primum ens* of quicksilver is found only in cinnabar.

The *primum ens* is a volatile, growing and revitalising spirit that resides in the mineral matrix until, with the passing of time and the influence of the seasons, it becomes a fixed metallic body.

Study the following point carefully: you must understand that it is a living species that resides therein, and is its tender spiritual youth. That is why we think it is impossible to obtain this spirit or *primum ens* using the material fire of wood and coal. As we have adequately explained in our Divine Mysteries, material fire destroys, consumes, and annihilates all life in living things. Never take liberties with it therefore. Act wisely both with it and through it, and in these procedures use only the revitalising natural heat from which the living spirits originated and by which they were created and nourished.

We shall now describe how to use our machines to acquire these living spirits spiritually and corporally by using the two great lights of the world, to the greater glory of God and for your own advantage.

Take one of the 'living mines' mentioned above, entirely raw and fresh, from its mineral root and expose it to our lunar machine and the living light of nature in order to calcine it without destroying its vital spirits. In this way the matrix in which the *primum ens* resides is opened up.

Now enclose this calcined material in a well-luted cucurbit and expose it to our solar machine. Distill at very low solar heat. The living spirit will then pass in all its virginity through the head of the cucurbit into the receptacle and appear as a bluish liquid which remains together continuously without evaporating like common mercury

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<sup>34</sup> Crystallised tin-ore.

does. But as soon as this spirit does take to the air it returns to its chaos. This is why it must be promptly enclosed in a philosophical vase; the secret that holds it and which one must join to it is nothing other than gold, silver or another virgin metal which has not yet been involved in any operation or purified with material fire, but which has been taken directly from the mines. This is the true philosophical vase of the said spirit, which is its likeness, and in which it delights, is contained, and is incorporated.

Note that nothing can be done with this *primum ens* of the minerals except create the Tree of Gold, also known as the Philosophical Tree, which grows continuously. Here is the procedure:

Take two parts of pure gold or silver and one part of the said living mineral spirit, which we also call our philosophical mercury. Put them together in a nice big cylinder made of finest glass. Lute it well. Put it in a temperate place. Leave it there undisturbed. In two or three months, branches of gold or silver will have grown which will proliferate like coral branches. After this time has elapsed you should nourish it further with some of our philosophical mercury. Then leave it undisturbed for the same length of time as before. Repeat this nourishment up to three times. By the end of the procedure the tree will have grown so large as to fill the glass with many beautiful small branches. At the same time it will also have acquired a genuine root. It has then become the true Philosophical Tree of Gold or Tree of Silver which, month by month, produces its own pure gold or silver, and which will yield a rich harvest. You can use a small pair of tweezers to remove some of the gold for your own use, just as it is.

Measure and note down exactly the weight of the gold branches that you have detached so that you can again nourish this philosophical tree with the same weight of philosophical mercury. In this way you can maintain a permanent harvest and generate a high income without trouble and expense.

If you look at this operation in its entirety you will be forced to agree that it is a work of true transplantation into its living roots in full accordance with the divine order. In qualitative terms, nature is acting through the magnetic spirit which it possesses within itself, seeking to multiply itself and reproduce its likenesses with the virginal parts to the greater glory of God and for the benefit of man.

He who claims to perform the same experiments using common mercury, cinnabar, gold or silver which has been purified by material fire is just a falsifier of the powers of nature and will be unable to achieve the least thing in our own Work.

To become familiar with the greatest virtues of this virgin gold which we are discussing and which will never have been exposed to material fire you have only to take this virgin gold, put it into fusion beneath our solar machine, and maintain the fusion

until it vitrifies as a scarlet glass. Then give it a leaven of gold of equal weight in order to make it into a tincture which tinges, although *particulariter*<sup>35</sup>, much more than any tincture made from common gold, as we discussed above in our Divine Mysteries.

Carried on the person, this virgin gold strengthens the heart quite incredibly. In other ailments it also provides exceptional protection against any infected air.

Let us state once again that nobody should dare to produce the Philosopher's Stone with ordinary heat, or the universal tincture using a similar *primum ens mineralium*, since the Philosopher's Stone derives from a completely different centre and from a quite different substance than the mineral kingdom. Each species or kind carries its own particular seed. This is why all created things must remain in the order that the Creator has infused into them. Each thing eternally produces its likeness, if only one knows how to assist nature through nature itself. This knowledge is a special illumination that God grants to us and which can only be implemented by using the two great luminaries through their astral influence and the use of our solar and lunar machines.

We therefore state that you should take the aforementioned living spirit, i.e. the *ens mineralium*<sup>36</sup>, reduce it by coction in an open vase beneath our solar and living natural heat until it forms a dry salt, and then increase the coction until it forms a red stone which resembles the most beautiful vitrified and fixed ruby. You will then obtain from it a tincture that can always be increased by a leaven, and which will never be exhausted. Despite all this however, it is far from being a universal tincture, because it was not taken from the universal root.

Finally, in concluding our present Divine Mysteries, we leave it to the conscience of everyone who has received any information about them not to abuse that knowledge, and thus we conclude all these elementary matters, which are temporal and will be consumed at the end of time, unlike us human creatures who, provided that we are upright and have lived in the fear of God, will be made pure in God, entering eternal bliss to praise and glorify Him for ever and ever, world without end. Amen.

We shall add to the present discourse some curious experiments that can be performed with the lunar machine, namely:

#### Happy fishing.

If there are a lot of fish in a deep and perhaps almost bottomless pond which makes them difficult to catch then you have only to set up our lunar machine on a small

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<sup>35</sup> i.e. only in particular cases.

<sup>36</sup> 'The mineral spirit'.

boat at the spot where the water is deepest. A strong focus is then applied to the water, but only to the diameter of an écu. This produces a dazzling light and causes the fish to swim to the surface. The focus is then applied at full diameter. This will cause the fish to be completely dazzled and they can then be caught by hand or with suitable implements.

#### Another secret.

Calcine some vitriol with the lunar machine. It will then become a beautiful white colour and be deposited as a powder. This is the true antipathetic powder which is used in various illnesses.

The antipathetic powder of the birds known as swallows is prepared in the same way.

The animal known as the bat can be frozen and numbed by the lunar machine, but it is better to do this on a Sunday, because bats are Saturnine to the highest degree. This powder can be used to counter magic spells, but it can also be used to perform them, using either white or black magic.

#### Other.

When the moon is full, place a large mirror beneath the lunar machine but not too close to it so that it does not shatter. You will see represented there the whole of the moon, the stars, landscapes, mountains, valleys, water and fire, and in the last of these thousands upon thousands of dreadful figures moving around, some more quickly than others. Their gaze is truly terrifying. The world of the shades and spectres can also be extremely well observed here.

An interesting experiment to create a pool of crayfish through which they multiply greatly and become big and fat, and also the creation of a pond from which neither crayfish nor fish can escape if a stream is created through the middle of it:

Dig a pond of suitable size. Surround it with a wall of large bricks. In the soil in the middle of the pond place some large beams of Erkenholz[?]<sup>37</sup>(as the Germans call it). Crayfish are particularly fond of this type of wood. All around the pond you should plant a herb called Liebstöckel<sup>38</sup> (as the Germans call it). This herb has extensive roots, the greater part of which grow down towards the water. The crayfish eat some of these roots and become very lustful, so much so in fact that they multiply in their thousands in just a short time. A small stream of running-water must also be created across the pond

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<sup>37</sup> Presumably an error for Birkenholz, birchwood.

<sup>38</sup> In English: lovage.



so that the water remains always fresh where it enters and exits. Some eagle-stones<sup>39</sup> should be placed at the two ends of the stream, i.e. at the entry and exit. Eagle-stones are antipathetic to all aquatic species, so when any aquatic creature reaches the passage it will immediately withdraw. After some crayfish have been placed into the pond and have multiplied they must be fattened as follows:

If, for example, you have put 300 crayfish into the pond then you should throw into it at least once a month one pound of fresh cheese cut into small pieces and two or three cooked eggs each cut into four. From time to time one should also throw in some raw liver. Thanks to this food the crayfish get bigger and fatten up exceptionally, and become exquisite in taste.

Creation of a water-reservoir to combine and increase a large number of springs.

Take one pound of the true magnetic stone and half a pound of alum. Put the magnet into the fire until it is red-hot two or three times, each time quenching it with vinegar. The stone will become fragile and friable. Crush it into a powder. Then calcine the alum in an earthenware pot until it is a very dark brown. Crush this into a powder also. Mix these two substances. Moisten them with well-water. Form them into large pellets the size of a florin (i.e. a small écu). Dry them in the sun. Once they are dry, place them in a draught-furnace or on a blacksmith's hearth until they are red-hot. Allow them to cool. The reservoir will now be ready. Note that if your two pounds of magnet or alum are reluctant to bind well to enclose the pellets then you can always mix in a little potter's earth to improve the binding qualities.

If you want to increase the amount of water and combine several springs to then run them through the slight cavities that they themselves form then you must carefully examine the soil where the springs run. The springs should be 50 to 60 feet apart. Make sure you always tackle the weaker spot first, sinking a strong iron bar into the middle of the hole in the spring to a depth of three feet, or even more depending on the terrain. Now throw one of the pellets into the hole made by the iron bar. Leave the pellet undisturbed and within a few days it will have created an opening. The water will rise and flow through a stream that it itself forms and which will steadily increase.

Note: always perform this operation when the moon is waxing because water always increases and decreases with the moon.

End of the Divine Mysteries.

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<sup>39</sup> i.e. aetites.

#### To make gold artificially.

Gold is not only found by digging and excavating in the bowels of the earth. Art can certainly imitate nature on this point, since it improves upon it in many other ways. I will therefore recount here something that has been tested an infinite number of times and which has become very well-known among those who work with the Philosopher's Stone.

Take a large crucible resistant to the strongest fire and place it on a blazing furnace. At the bottom of the crucible place some rosin powder to the depth of a little finger. Now sprinkle onto this rosin powder a fine powder of iron filings to the depth of one finger. Cover these filings with a little red sulfur. Increase the heat of the furnace until the iron filings dissolve into liquid. Now add some borax of the kind that the Goldsmiths use to melt gold. Also add a similar quantity of red arsenic and a weight of silver that is equal to the weight of the iron filings. Allow this mixture to cook by increasing the heat of the furnace. Take care not to breathe in the fumes from the crucible as they contain arsenic. Take a second crucible and pour into it by inclination the re-heated matter which you should have previously mixed thoroughly with an iron spatula, ensuring that it runs into this second crucible purified and without any dregs. Thanks to the water of separation some of the gold will be deposited. When you collect it you will cause it to dissolve in the crucible and will have some beautiful gold which will reward you for your pains and expenditure.

#### To restore the original sheen to prints or engravings damaged by dirt or soot.

The prints or engravings should be rolled up loosely and then placed like that in an oblong bottle. This should then be exposed to chlorine fumes.

Chlorine has the characteristic of destroying every conceivable colour and consequently restoring to the paper all its whiteness, but it does not act on the black ink of the print, because that is a boiled oil.

A way has also been found of using chlorine to rapidly bleach canvas.

[Diagram p. 348]

Designation of the powers and planets under whose influence all the others fall.

<b>Sunday</b>	Soleb	A	Sun
<b>Monday</b>	Phuel	B	Moon
<b>Tuesday</b>	Phaleg	E	Mars
<b>Wednesday</b>	Opheël	C	Mercury
<b>Thursday</b>	Beltor	F	Jupiter
<b>Friday</b>	Stagit	D	Venus
<b>Saturday</b>	Aratron	G	Saturn
The design of our machine.			

[Diagram p. 349]

<b>AM</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
Sunday	A	D	C	B	G	F	E	A	D	C	B	G
Monday	B	G	F	E	A	D	C	B	G	F	E	A
Tuesday	E	A	D	C	B	G	F	E	A	D	C	B
Wednes- day	C	B	G	F	E	A	D	C	B	G	F	E
Thurs- day	F	E	A	D	C	B	G	F	E	A	D	C
Friday	D	C	B	G	F	E	A	D	C	B	G	F
Saturday	G	F	E	A	D	C	B	G	F	E	A	D
<b>PM</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
Sunday	F	E	A	D	C	B	G	F	E	A	D	C
Monday	D	C	B	G	F	E	A	D	C	B	G	F
Tuesday	G	F	E	A	D	C	B	G	F	E	A	D
Wednes- day	A	D	C	B	G	F	E	A	D	C	B	G
Thursda y	B	G	F	E	A	D	C	B	G	F	E	A
Friday	E	A	D	C	B	G	F	E	A	D	C	B
Saturday	C	B	G	F	E	A	D	C	B	G	F	E
<p>Explanation of the course of the planets and how they complete it, both during the day and during the night, as well as their respective days and hours.</p>												

## Appendix 4. Das Zweyte Silentium Dei summary and translation

### Notes on the text and attribution

Johann Arndt (1798) *Das zweyte Silentium Dei* in Mellon MS. 136, USA, Beinecke Rare Books and Manuscripts Library, Yale University Library. See figures 38-40 in Volume 1.

Portions of the text are written in a Masonic/Rosicrucian cipher, the key to which is provided within the manuscript itself. The *Arcana Divina* and *Das Zweyte Silentium Dei* contain very similar content in parts but the *Das Zweyte Silentium Dei* is more focussed on the technical description of the operation of the “secret magic machine”. The text reads at times like a laboratory manual. It also seems as if the author is familiar with the *Arcana Divina* (or vice versa) but has not actually copied it directly.

The prologue to this text, which may have been written by Johann Arndt (1555-1621), is dated 1599. The author claims the main text to be drawn from Paracelsus’s documents of 1555. There are problems with the dating and attribution of this manuscript and it cannot be known for certain whether this text predates the other *Arcana Divina* texts as has been claimed.

The relationship of this text to the *Arcana Divina*, particularly in terms of establishing precedence, would be worth further research. The earliest known manuscript of the *Arcana Divina* is 1725. According to Stanislas Klossowski de Rola,<sup>40</sup> the *Zweytes Silentium* Mellon MS 136 (dated 18-25 December 1798) is an 18th century copy of this document, Johann Arndt's *Zweytes Silentium Dei in des Konigs Salomonis des Weisen paradiessischen Lustgarten*. De Rola translates the text beginning in Latin on fol. 5 as follows:

That is DIVINE SECRETS or distinct and succinct Description not only of The Philosopher's Stone but of all the Secrets of Nature excepted from the very Manuscripts of Theophrast Paracelsus dated Schaffhausen on the Rhine, on the 9th of March 1555 thence given to Emperor Maximilian I.

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<sup>40</sup> See "Zweytes Silentium Dei" discussion thread - Alchemy Website archive: [http://www.alchemywebsite.com/a-archive\\_nov00.html](http://www.alchemywebsite.com/a-archive_nov00.html) (Accessed 14th March 2013).

De Rola says the prologue to this text is dated 1599 and was published in *Paradisgartlein aller christlichen Tugeden*, 1612 and later reprinted with a separate title page in, *Vier Bucher vom wahren Christenhum*, 1733.

The attribution of the *Zweytes Silentium Dei* to Johann Arndt was first made by Karl Kiesewetter (1854-1895), possibly in order to add weight to the Rosicrucian cause. The prologue does seem to date from Arndt, but while the main text is Paracelsian in underlying philosophical background, the level of technical detail would make an attribution to either Arndt or ultimately Paracelsus appear doubtful. The Paracelsus attribution is most likely to be apocryphal, but whether this attribution was made by Arndt or a later writer is unknown. The main text could equally have been written after Arndt's time (attributed apocryphally, with Arndt's prologue added) or before it (if it is somehow genuinely Paracelsian). In the absence of earlier manuscripts and further research, we do not know.

The text describes the fire as the "sacred and celestial fire of the old Philosophers which penetrates to the inner fundamental essence of all things with its pure spirit, brilliance and brightness." (p. 24) A procedure is described for bringing the "Spirit of mercury" back to its *primum ens* (first essence) and for making a vitreous stone as a medicine. Descriptions are then given for using the machine to refine a number of minerals and ores, creating "a great multiplication" leading to an accumulation of the "Spirit of the world" within the substances irradiated. Further procedures for working with lead and gold are given, yielding a precious red stone that enables transmutation and medicinal uses. Further detailed technical description is given for using the machine to create different types and intensity of "magic astral heat" for different purposes.

An interesting technical instruction given for the use of the "Glass Paradise" for extracting a salt from the air, already discussed in Volume 1. The manuscript concludes with some safety instructions on dampening the heat of the machine and avoiding fumes. A final note says that the original of this "secret but openly published Paracelsian document" contained the signatures of five Holy Roman Emperors.

Paul Ferguson's translation below is partial, focussing on those sections dealing with the catoptrical device and its use. It includes pages 16-35 and 73-81.

## Das Zweyte Silentium Dei transcription in German, pages 16-35 and 73-81

Transcribed and translated by Paul Ferguson (2013) from Mellon MS 136 (Yale)

Translator's note: Due to the sometimes crabbed script in the original and the tight right margins on the left-hand pages some words were hard to read and have been indicated by ellipses.

[p. 16]

Machina magica et Vasa necessaria ad sequentes Operationes - mit unterschiedenen vorgestellten Veränderungen und deren darzu erforderlichen Brennsiegeln und andern höchst nöthigen Stücke so bey unterschiedenen Operationen gebraucht werden, so gleich nach Vorstellung dieser sehr geheimen magischen Machine in unserer geheimen Sprache, so Crucis Roseae, ... wird nach der deutschen Zungen alles deutlich und jedem, der dieser Schrift kundig, alles zu dieser Machine erforderliches zutraulich und sonnenklar eröffnet wird, wir

[p. 17]

auch bey dem Beschluß dieses ersten Tractaetleins der vollige Gebrauch dieser Machine in allen Vorfällen anzustellen daß allerst auch in dieser unsern geheimen Sprache hell entdeckt wird. So du nun von GOTT darzu erkosene und mit dem Geiste GOTTES ausgerüstet bist, so wird dir solche geheime Schrift durch den selben gar ... nach der mentalischen Zungen ... werden, indem du unsern grossen universal Schlüssel am Ende dieses Tractaetleins so gleich bey Händen und durch dessen Zergliederung nach mentalischer und sensualischer Art/so sehen du euer GOTT darzu brauchen/schon finden wirst.

Allhier aber folgen erstlich die unterschiedenen Veränderungen unserer geheimen Machinae magicae als folget im ersten Felde no. 1.

Die Schrift pag. [ ] ist also zu verstehen.

No. 1, 2, 3 zeigen die hohlgeschliffenen Glaeser an/in convexa/ist in hohlgeschliffenen Kugel Maschinen/in concavam haemispheriam  $\mu\sigma\phi\alpha\rho\iota\omicron\nu$ /also ergeben nach der

[p. 18]

entfernten Halbkugel des Himmels seyde convex geschliffen und auchs fullerste und lauterste poliret werden/deren das Erste in seiner Circumferenz 6 oder 12 Zoll; das andere oder No. 2 12 oder 14 Zoll; das Dritte aber 18 oder 16 Zoll fallen muß, und wie selbe in gleich weite Distanz gestellet werden müssen, auf das ein Focus den andern erreichen könnit bis auf das Centrum No. 4/du die magische Machine also gestellt seyn muß, wie im zweiten Felde zu sehen, zur starcken Destillation des Mercurii im ersten Felde bey No. 4 auch der Tafel, die unten Räder und Rollen haben muß, den Tisch vor der magischen Machine zu oder abzurücken, auf dem die Materia des Feuers benöthiget: denn dieses heilige und himmlische Feuer der alten Philosophen dringet bis in die innere Grundessenz aller Dingen mit seinen lautern Geiste, Glast und Candor dafür ein Adeptus solches wohl zu geben... ohne und die magische Machine nach Ausfluß des göttlichen himmlischen heiligen Feuers dirigiren muß, nachdem es die unter

[p. 19]

Händen habende Materia erfordert; wenn nun der letztere Focus erreicht bis auf das Centrum no. 4 im ersten Felde, wo der Mercurius im Kolben ist: so steigt als dann in No. 5 der Spiritus Mercurii; No. 6 ist eine glaeserne crystallen Kugel mit frischen gemeinen Wasser/auch nach erforderlichen Umständen mit Nitrum zur Kühlung; auch im Gegentheil mit hitzigen Salien/als das Sal tartari fixum eines ist/angefüllt. No. 7 seynde von Eichenen oder andern harten Holze Aufsatzstöcke. No. 8 ist eine Sand-Capelle. No. 9 ein Stock oder Kreysel, darein die 3 Glaeser in 4 Stäben stehen und durch ein Gewerbe auf und nieder gerustet, als auch unten am Stock kann hoch und niedrig geschraubet werden. No. 10 ist die glaeserne offene Glasschaale, darinnen nicht allein alle Salien, sondern auch alle Mineralien und Metalle, vegetabilische und animalische Körper calciniret und zur Attrahirung angereizt und gezwungen worden/auf Entledigung ihrer Unreinigkeit, so auch warfür durch dies unser himmlisch

[p. 20]

Feuer geschehen muß, den Spiritum Mundi desto häufiger, so wohl in Quantitate als Qualitate an sich magnetischer Weise zu ziehen und also gereinigt und von seiner Natur Krankheit geheilet zu werden und dargegen in die reine paradießische Natur zubringen, daß es eine himmlische Creatur werde und die Irrdigkeit völlig ablege. No. 11 ist ein von etlichen Zolle dicker Stock oder Klotz, worauf die Schaale No. 10 gestellet wird. No. 12 ist ein glaeserne Wasserkugel. No. 13 ist eine glaeserne Capelle. No. 14 ist das Glas mit denen Floribus oder Blumen. No. 15 ist das Glas so unten zu Litt. b an No. 14 muß lutirt werden. No. 16 ist der Stopfel dazu. No. 17 is das runde Glas überall mit



kleinen Loechlein vorsehen; solches gehoret auch zu No. 14 bey Litt. a im Grunde des Bauchs zu versenken und die Flores darauf zu legen, daraus man die Quintessentiam mit dieser unsern magischen oder magnetischen himmlischanziehenden Feuer Maschine anzwinget. No. 18, die Renien, das seynd die grünen Augenbrillen, womit man gerust ohnbeweglich in dies Feuer sehen, und muß man mit dieser unsern magnetischen Maschine in Edelgesteinen arbeitet und derselben inneres Wesen par force ferner jagen muß. Dessen fernern Verfolg vid. pag. unten bey A. W.

[p. 21]

Machina magica et vasa necessaria ad sapientes Operationes erstes Feld.

[p. 22]

Zweytes Feld.

[p. 23]

Drittes Feld.

[p. 24]

Beschreibung der magischen Maschine

No. 1 fig. Solis.

[No. A. B. C. zeigen die hohlgeschliffene Gläsern deren das erste in seiner Zircumferenz M 6 oder 12 Zoll; das andere O 12 oder 14. Das Dritte Q 18 oder 16 Zoll hält, wie dieselben in gleich weiter Distanz gestellet werden müssen auf, daß ein Focus den andern erreichen könne bis auf das Centrum. No. D wo der Mercurius ist in. No. E, Steigen der Spiritus Mercurii. No. F. ist eine gläserne Kugel mit frischen gemeinen Wasser angefüllt. No. G. sey von eichenen oder andern harten Holz aufgesätz Stöcke. No. H. ist eine Sandcapelle. No. I. ist ein Zoll dickes Brett, oder Drehstock darein die Gläser gestellet werden. No. K. ist ein Gläserne offene Schaaalen. No. L. ist der Stock worauf die Schaaale gestellet wird. No. M. ist ein Gläserner. No. N. das ist eine gläserne Capelle. No. O. ist das Glas mit denen Blumen. No. P. ist das Glasso zu lit. b muß lutirt werden. No. Q. ist der Stopfel. No. R. ist das runde Glas mit kleinen Löcklein, gehören zu Lit. a. No. S. Renien seynd die grünen Augenbrillen so man in Edelgestein arbeitet.]

[p. 25]

A.W. [Allgemeine Wahrnehmungen]

Zum Eingang und Gebrauch dieser magischen Maschine wird anwiesen: wie und auf was Art der gemeine Spiritus Mercurii/welcher sonst nimmer mehr in sein primum Ens zu bringen ist/gemacht werden kann. Gar sollst du den Mercurium Vulgi, wie die Maschine anzeigt, in einen Kolben thun, einen Helm aufsetzen und seinen Recipienten vorlegen, wie die No. 4 und 5 anzeigt: du einsetze hinter die Vorlage [die Wasserkugel No. F, N.B. diese Kugel] muß offen stehen und nicht zugemacht werden und wann des Wassers zu wening würde, so muß sie wieder gefüllt werden.

Wann nun solches alles geschehen, so wirstu deine Maschine justo gegen den Sonnenstrahlen also accurat, daß der dritte Focus den Mercurium im Kolben erreichen und durch seine Hitze denselben bringen können und ihn also über den Helm treiben und zu einem Spiritu wachsen möge.

N.B. Einem Erfahern ist sonst bekennt, daß ein allzuschnelles und gähes Feuer schädlich ist, darum ist zu wissen, daß der Stock mit der Maschine etwas ferneres als der Focus reicht, gestellet und nach und nach auf den Focum, als des stärksten Feuers herzu gerückt werden kann, da er dann mit

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Gewalt sich habet, in die Vorlage gehet und sich in einen Spiritum oder Aquam viscosam resolviret, welches da Macht und Gewalt habe. NB. alle corpora metallica in primam Materiam, das ist in ihr erst natürlich Wesen zurück zu kehren und also aus einem Leiblichen ein Geistliches zu machen, und dem Artisten zu fernern Nutz und Gebrauch zu überantworten. Nota. An sich selbst, oder in sich selbst ist aus diesem Spiritu Mercurii nichts anders zu wensen, als daß sey Geist in einen offenen Glasschaalen mit dieser unsern magischen natürlichen Feuer wieder in einen metallischen Stein kann coagulirt und hernach in ein Vitrum oder Salamander aber durch und mit unsern magisch natürliche Feuer geschmolzen werden, welches so dann unser philosophischer Glas Stein genannt wird, und particulariter große Dinge verrichten kann.

Wie aber solche Verrichtungen zugehen, und sonderst dem Menschen zur Gesundheit als auf leiblicher Unterhaltung dienen, wollen wir nun eines wafüro setzen und sagen: daß du

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nehmest 1 Theil unsers metallischen Glases klein geminden und mit 100 Theil feinen Silber in und mit unsern Feuer zusammenschmelzest; so hast du eine weiße brüchiche Materiam die sich ganz lieblich zum Pulver drücken und reiben lasset. Dessen nimme 1 Theil und 1000 Theile Mercurii Vulgi in offene Glasschaalen zutragen, du es unser Feuer

angriffen, und anfangen will zu rauchen: so meinst du es zum besten Silber figirt haben: weilen aber solches Silber allzucompact und dem ponderi Solis gleich ist, N.B. so schmelze und legire zu auf eine Marck solches Silbers 4 Loth rohes Kupfer; dieses öffnet ihm seine Banden und schließt ihm seine Poros durch den bey sich habenden Kupferischen Sulfel muß also daß es hernach beständig gut Silber ist. N.B. Wirst du aber diesen unsern Glas Stein Sol zusetzen und darmit in unsern Feuer also, wie mit dem Silber verfahren: so ... der Nutz wohl höher hinaus lauffen: dann es ist einerley Arbeit. In der Medicin, was es auch immer vor eine Krankheit sey und Namen haben möge, ist von solchem unsern philosophischen Glasstein also rohe, wegen seines großen Feuers nichts in

[p. 28]

Leib zu nehmen, maßen es selbst nicht rein genug und seines Aufsätzes noch lange nicht entlediget: außer man procedirte weiter.

Dafürö lege eine Stücklein von diesem Vitro in ein Glas Wein und lastu es 12 Stunden lang darinnen stehen, trink es aus und reizes tu den Schweiß, so wird es dem Patienten zugleich per Sedem et Urinam viel Unreinigkeit mit antreiben, und denselben ohne weiteres Mediciniren nebst göttlicher Hülfe restituiren.

Zur Zeit der pestilenzischen Seuchen und wann inficirte Luft obhanden, ist dieses eine Universal Medicin.

Kunst und Gebrauch unsers natürlichen magischen Feuers, wie und auf was Weise die zahmen und wilden Erze nebst allen Mineralien können zur Güte gebraucht werden.

Als da seynd alle Sol, Luna, Martius, Mercurial, Iuppiter, Venus und Saturn Erze item derer wilden Mineralien, also Goldkiess, Kupferkiess, Sulfurkiess, Speisskiess an sich, Wasserkieß, Blende, Wissmuth, Glanz, Glette, arsenicalisch, antimonialisch, Kobold, Marca-

[p. 29]

siten, Spath, Atrament, Jockelnkiester, Hornstein, Granatstein, Nieren, Ockergelb, Keppelbraun, Sallenober, Schmeererze, Galmey, von allerley Talken, Vitriol, Federweiß, gediegen und andern Sulfuren, Zwitter von Gold, Sand und Schlichten, roth, gelb und grüner Erden so mineralisch, sie mogen Hornen haben, wie sie wollen und also alle unvollkommene Metalle und Mineralien, ist die Haupt Regel mit dieser Machine also mit ihnen zu verfahren:

Erwählen oder nimm von dich ein zahm oder wildes Mineral, was es vor eins sey, bemerke es auf den Berg Centner, dann poche solches crude wie es vom Lauge kommt, wasche den Berg davon, so wird sich thun läßt, so das geschehen, ruhtu deine Machine und schüttn den Schlich auf [einen breiten glauen Reibe- oder Marmorstein], stau solchen zuvor getrockneten Schlich wirst gar zu dicke auf einander und laß folgend deine magische Machine wercken daß es sich calcinirt, ruhen auch mit einem Holz, oder besser mit einem glaesernen Stängel stets

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darinnen, auf daß es die Hitze gleich ...; wenn solches nun zu Ende zubracht, und ist dieses calcinirte Mineral wieder abgewogen so wirst du einen reichen Zuwachs und große Vermehrung finden und die Wunder GOTTES sehen: wie durch diese magische Beschickung sich der Spiritus Mundi darinnen sammlet und dein Werk seegen wird, und wie solche wilde Erze zum ewigen Danke GOTTES sich ohne einziges Dinges oder Zusatzes reifen und figiren, daß also die herrlichsten und best beständigsten Metallen erfolgen und mit sie ist die Vorbeit geendet durch diese große Gnade GOTTES.

Andere Fortsetzung

Nimm im Namen GOTTES dein geseegnetes und calcinirtes Mineral, thun solches in eine weite und stärcke Glasschaale, laß dann das magische Feuer auf das stärckste und in der Mitte darein wercken: so schmelzt es in kurzen ohne Zuthuung eines Flußes vom Wasser; hernach machst du die Machine ab und laß es erkalten und nimme es aus, so ist die andere Arbeit aufgefertiget und zwar mit größten Freude und Verminderung.

[p. 31]

Dritte Fortsetzung

Diese Fortsetzung ist ein Wunder und hohes Arcanum, in welchem das größte in der Feinmachung bestehet.

Nun nimm aber in höchsten Namen JEHOVA eine nach Nothdurft bequeme, stärcke und dicke Glasschaale, welche [einer Capellen] gleichformiret, doch daß dieselbe etwas tieffer hohl sey, lege dein geschmolzen Metall darin, und trage Blei zu, wie sonst bey dem Abtreiben gehörig und erfordert wird: denn das Blei ist Meister alle Metalle rein zu waschen, so sehen wir das Antimonium; wirstu nun die Machine und dein magisches Feuer danach und laß es angehen, so treibet sich das Metall reine ab und das Blei unvernunft also, daß das schönste Korn bleibet und N.B. somit höher als auch der Capellen. N.B. mit nimme ordinären Capellen läßt sich mit diesem magischen Feuer

nicht arbeiten, weil der Spiritus Mundi sich zu sänftig in die Capelle senkte und solches verhindern wurden.

[p. 32]

fixes Korn, warin Gold und Silver beysammen ist, geschieden werden muß, solches geschehet also ... das fixe Korn auf eine Glasschaalen, soeben etwas tief und nicht zu weit sey, wirstu deine Machine und Feuer darauf, so es nun schmelzen, so wirf nach und nach etwas wenigens Nitrum darauf, so reiniget und scheidet sich das Gold und Silber, und gehet das Silber mit dem Nitro in eine Schlacke, da abermals N.B. eine Vermehrung und Zuwachs zu finden ist, von den N.B. das Nitrum den Spiritum Mundi sänftig an sich zinket und ist derselbe mit dem fixen = im Feuer stehenden Metalle auch figiret und nimmer leibet.

Die obere Schlacke treibe hernach im Feuer wie ist bey pag. anter. gemeldet, mit Blei in nimm daselbst angegebenen [gläsernen Capellen] ab, so hast du auf mithier das Silber und Gold, jedes a parte gereiniget und dein Werk, so mehr engelisch als menschlich mit dem magischen und centralischen Feuer zum höchsten Wunder GOTTES geendet, wofür die ewige Majestaet zu loben und zu danken.

Die vierdte und letzte Fortsetzung.

Diese weiset wie solches abgetriebenes und

[p. 33]

Secretum Secretorum

Wir sagen, nicht einer, ja nicht ein einziger unten allen Menschen wird dieses, oder das große Geheimniß verfertigen ohne Erkenntnis unsers magischen Feuers, so auch das natürliche und philosophische Feuer genannt wird, ich sage hier Unser oder das große Werk oder Geheimniß aller Geheimnisse, welches vom Anfänge bis zum Ende aller Dinge aus dem göttlichen ewigen Grund seinen heiligsten Ursprung genommen und solchen auch ewig besitzen und beherrschen wird; darum ihr alle, so deren Dingen N.B. in göttlichen Berufen, hanget, werket es wohl und sehet zu sonderst nach die Würde des Geistes GOTTES N.B. Euch darzu heilsuchtig zu machen: so wird Euch gegeben werden was da einführet zum Lichte der ewigen Einigkeit. Amen.

A.W.

Nun wollen wir summen unsern Beruf genung thun und mit GOTT dem Heiligen GEISTE einen Eingang zur wahren Erkenntniß unsers philosophischen Werks machen und anzeigen, wie alles aus

[p. 34]

dem ewigen Centro strahlet und uns in der heilsamen Natur beleuchtet.

Zuvor aber und ehe wir schreiben von dem Universal der kleinen und großen Welt, wollen wir das Reich der Mineralien zum Anfang nehmen, wodurch die unvollkommenen und kranken Metalle in das höchste sonnerische Ehrenhaus zu setzen und wie wir solche uns Armen zu Nutz machen können. Wir lassen hier den im Anfang gedachten Spiritum Mercurii in dieser Operation beyseits und nehmen zur Transmutation der geringen Metallen N.B. Umschlechtung einer Mineral, welches noch nicht metallisch ist, aber doch einen Anfang darzu habe. Dieses Mineral nun sey was es von eins sey und waren es nun schlecht eine Blende, so neben denen Begängen(?) in den Menge gefunden wird. Dieses nimme, stostu und calcinire es in einem Glas mit unserer Maschine und Feuer: so häuffet sich der Spiritus Mundi hinein und schwängert solches mit 1000-fältigen Fruchten.

So nun dieses geschehen, so setze diesen fein Gold zu welches sein männliches Geschlecht ist, co-

[p. 35]

pulire es und laß es mit diesen unsern priesterlichen geistlichen Feuer wohl und zur ... mit einander fließen, also lange bis die Massa ganz grün und redlich Feuerroth scheidet; dann nimme es in allerhöchsten Namen aus, so hast du N.B. einen unbeschreiblichen Schatz, daß es derweder in Gesundheit noch Lebensmitteln nimmer zubrauchen wird.

Nota. Dieser Schatz aber ist unser philosophischer und mineralischer Stein der mehreres einem Carfunculo als einem Steine glühet; von diesem nimme 1 Theil und finirtes Gold 1000 Theile, laß es aber mit und in diesem unsern geheimen magischen Feuer schmelzen: so augmentirt es sich abermalen sterk und wird endlich zum höchst rothen Pulver, dessen nun 1 Theil und 100 000 Theile unvollkommene Metalle im Fluß gelangen: so wird alles zum höchsten und feinsten Golde, deme in den Weltkreis gleich noch vorgesezt werden kann, wavon du GOTT ewig zu denken schuldig bist.

J. K. M. F. B.

Break – pages 36-72 omitted.

[p. 73]

Grund Regel wie unsere magische Feuermachine gemacht/bey jeden Arbeiten angestellt, nebst denen darzu erforderlichen philosophischen Gefäßen, Glaesern und andern höchstbenöthigten Stücken, wie auch nebst des noch überdies darzu erforderlichen Hauptstücks auf den Ofen bey 2 Sign. Solis Lunae mit dem Contrakolben wobey ein kugelrunde Vorlage, an dieses Contrakolbens und des daran aus dem ganzen in einem Stück seyenden Schnabels angeleget wird, um dem Spiritum Mundi man mittelst unsers geheimen magischen Feuers Machine pur und rein per se ohne den geringsten Zusatz, so wohl in Quantitaet als Qualitaet aus der Luft als seinem Kleide hernaus zu hahlen und so wie solcher

[p. 74]

von denen Syderibus darein gewurket und in den Luftkreys impraegniret und darmit beschwängert worden, wieder davon, durch diese unsere geheime magische Machine und derer, mit dem Contrakolben muß dem Ofen stehenden/als welches unser geheimes philosophisches Receptaculum magicum ist/in sehr kurzer Zeit, zu in etlichen Stunden eine große Copiam von vielen Maassen des geseegneten und alles belebenden Weltgeistes zu attrahiren ohne einiges andern Dinges Beyhülffe außer unserer geheimen magischen Machine und des darzu erforderlichen philosophischen Receptaculi bey 2 Sign. Solis, nebst dem wahren Unterricht und Lehre: wie unsere geheime Machina Magica zu allen Dingen und zu allen unsern/dir vorbeschriebenen fundamentaliter in ihren unterschiedenen Effecten per Gradus ignis ungestellt wurde und zu allen unsern geheimen philosophischen Verrichtungen und

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Operationen/in der ganzen Natur kan gebrauchet worden; als folget:

Erstlich sollst du wissen: [wie größer die vorgebildete Brenngläßer seynd, je beßern Gewalt haben sie einige Sachen zu enden; aber zu unsern hierbeschriebenen wercken seyn sie mit M.O.P.Q. Zollen, endlich biß Z. Zollen groß genug] dann die allzu große Gewalt, ob es schon aus der Natur kommt, schadet darnach und übertreibt sein minderes Geschlecht, daß es also in keine Vollkommenheit kann gebracht werden, wann dieses wahlsinnen beobachtet wird.

Dafüro eine jedwedere Operation eines andern Feuers bedürftig: also ist zu merken: daß waenn du Schmelzfeuer gebrauchst [da sollst das größte Glaß vornen gegen der Sonne stehend machen], so wirft es seine Strahlen desto starker auf die

Materiam zusammen in [eine Fuge]: Willst du aber destilliren, so [wende deine Maschine um, daß das kleinste Glas gegen der Sonne zu Stehe] so werfen sich die Strahlen weit auseinander, underhitzen das ganze Glas mit der Materie wie bey dieser [Machine mit dem Spiritui Mercurii]

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zu sehen. Willst du aber ein Digerir oder noch schwächer Feuer haben [so ziehe entweder die Maschine oder deine vorgesezte] Materiam [etwas weiteres von einander, oder setze eine große mit frischen Wasser angefüllte Gläsernekugel darzwischen].

Wann du aber von dieser Maschine schmelzen, calciniren und figiren wolltest: so muß du die Sachen also anstellen, daß das magische astralische Feuer [seine centralische Strahlen] justo [auf die Materie werffe].

Und dieses ist N.B. N.B. die Haupt Regel in allen denen Wercken, welche dich selbstn lehren auf dich in weitere Erfahrungheit in Untersuchung der Natur summiers instruiren und leiten wird.

Zweytens sollst du wissen von unsern geheimen philosophischen Receptaculo so bey Attrahirung des Spiritus Mundi/so ohne einigen fremden Zusatz geschehen muß/wonach zu unserer obigen magischen astralischen Feuermachine erfordert wird und solche No. 2 bey Sign. Solis wird einem Offlein mit ihrem Zubehör zu sehen, darauf das Receptaculum in

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linder Wärme stehet, damit solches die innere Luft für uns treibe, und dann, wann unsere magische Feuermachine oben gegen den Contrakolben gestellet worden, nichts anders als der reine Weltgeist durch die Löcher hinein und in die runde Vorlage getrieben werden moge, wie folget.

Vom Receptaculo No. 2 oder der Maschine, womit und wie den Spiritus Mundi per se zu bekommen.

Vide Sign. pag. [ ]

Der Helm mit der Contrakolben müssen in einem Stücke verfertigt worden; die vier Löcher, so in dem Contrakolben zu sehen, müssen auf jeder Seite viere, und also zu sommen 16 appliciret werden, und allen 4 Seiten, als 4 nach Orient, 4 nach Occident, 4



nach Meridiem und 4 nach Septentrionem und solche in die Mitte des Contrakolbens Bauch gehen, so groß, daß man den kleiner Finger hinein stecken kann, damit der Wind von allen 4 Gegenden des Himmels durchstreifet,

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der untere Kolben wird leer in eine Capelle mit sulfur vivum angefüllt, gesetzt. In dem Ofen in den jederzeit/reine wohlgewaschene und wohl wiedergetrocknete glühende Kohlen, die laß man so großen dennoch man sich geben, gethun damit es keinen übeln Rauch abgiebet; das Feuer muß nicht stärken gegeben werden, also dass man an den untern Kolben eine Hand gar wohl erleiden kann; der Ofen braucht nur 2 Ventile; der Schnabel in dem Helm des Contrakolbens muß 2 Fuß oder einer Ellen lang seyn; die Vorlage von mittelmaßiger Größe, doch kugelrund. Wann ... operieren will: so muß es ein heller schöner Tag seyn so es möglich seyn kann, muß man ... eine Anhöhe gehen, von Wasser und Holz eine viertel Stunde womit rings summiert befanget in offener Luft. Wann nun alles observiret, wie bereits erwähnt worden, dem Ofen und ein Postement 2 Ellen hoch mit dem Receptaculo gesetzt von 9 Uhr des Morgens bis Nachmittage um 3 Uhr. Und unsere geheime magische Feuermaschine sign. Solis nach der dir vorge-

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schriebenen Weise verkehrt gegen die Sonne gestellt und also die Strahlen zerstreuter Maassen auf das Haupt oder Boden des Contrakolbens mit der größten Force spielen lassen/N.B. doch nachzüglich per gradus/da dies die Strahlen ringsherum über besagte Löcher des Contrakolbens mag fallen und nichts unreines noch gemeines, zu diesen 16 Pforten einlassen, send man alles raus nicht himmlisch reine und der Lichts und Lebens Eßenz zuwieder, das scheidet dieser Cherub, so gleich als einen Bodenstaub mit seinem zwey schneidigen Feurigen Schwerte dieser darauf fallenden Strahlen, die bis ins innere Centrum durch denigen hinweg und lasset also nichts anders als den reinen paradiessischen Leib als den wahren und gerechten mit lauter Licht angefüllten Spiritum Mundi hinein durch die Pforten in das glaeserne Paradies nämlich durch die Oefnungen des Contrakolbens durch die enge Pforte, das ist durch den Schnabel ins Paradies oder in die neue para-

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diessische Welt, das ist in die reine kugelrunde Vorlage. Und auf diese vorgeschriebene Weise wird man den Spiritum Mundi rein und gut bekennen. Nach geendeter Operation wird der Spiritus Mundi aus den Vorlage in ein groß und starckes reines Gefäße

gegossen, daß noch nicht die Helfte damit angefüllet und in einem kalten Orte wohl verwahrt auch befulden N.B. ins Frühjahre ist er mercurialisch und im Herbst sulfurisch.

Wir könnten auch noch zum Beschluss mit diesem dienen und dir kürzlich melden daß so ein Me[n]sch jährlich nur ein, zwey, höchstens dreymal seine gewöhnlichen Speisen mit diesen unsern, durch unsere magische Feuermachine, doch dass die Gefäss bedeckt und die Strahlen nicht darauf fallen/kochen und geniessen thäte, wurde er durch diese Gnade GOTTES als des Lichtes Kräften ein langes und ganz verjungertes Leben bekommen; also in, mit und durch GOTT, in der kindlichen Furcht des HERRN und unaufhörlichen Lobe GOTTES seinen hier zeitlichene Schluß machen und in das ewige Licht eingehen moge. Amen.

Nota: Habe erbey auch euch erinnern wollen

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so man im Feuer ist, und atmen schnell eine trübe Wolke kann, daß man ja so gleich einen Deckel von gewixter Leinwand, sowie ein Sattel oder Hut und mit Flanell oder Watte untergefüttert, sowohl rund die 3 Haupt Glaesser in der magischen Machine und auch auf die, so man dem Feuer stehen, also gleich augenblicklich zu decken, sonsten wurden sie gleich zu erspringen, welchen Handgriff auch noch niemalen kein Philosoph hat offenbaret.

Nota.

Auf dem Original dieser so sehr geheimen Theophrastischen, aber doch ganz offenbarten Schriften, waren folgende fünf Römische Kayser auf dem Pergamente mit rothen und guldenen Buchstaben unterschrieben also:

	Carolus quintus	
	Ferdinandus primus	
Soli DEO	Maximilianus secundus	Gloria
	Rudolphus secundus	
	Matthias primus	

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## **Das Zweyte Silentium Dei translation to English, pages 16-35 and 73-81**

Translated by Paul Ferguson (2013) from Mellon MS 136 (Yale). Translation of pages 16 (partim), 17-32, 33 (partim), 34-35, 73 (partim), 74-80, 81 (partim). Passages that are in code in the original text are contained within square brackets. All footnotes by the translator.

### **The Second Silence of God**

**The magic machine and the vessels required for the following operations**, together with various suggested manipulations of it, as well as the burning-glasses and other essentials required for the various procedures.

Immediately after a presentation of this very secret magic machine written in our secret language, namely that of the Rosy Cross, everything will also be clearly explained in the German language. To anyone familiar with the secret language everything required for this machine will be faithfully and luminously explained. At the end of this first short treatise we also discuss everything about how the machine can be adjusted to suit all the various circumstances, which will also first be clearly revealed in our secret language. So as you are now chosen by GOD and are imbued with His spirit, this secret language will by this same means converted to the intellectual tongue, as you now have in your hands our great universal key, as given at the end of this short treatise, and if you analyse this with both your intellect and your senses then you will come to understand that you need your GOD for this task or else shall have found Him.

We begin however with various recommended manipulations of our secret magic machine, as shown in the first illustration.

The text on page [ ] also needs to be understood.

Nos. 1, 2 and 3 in the illustration show the burning-glass, which is *in convexa*<sup>41</sup> and which is placed in a concave globular machine (*in concavam h emispheriam*<sup>42</sup>

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<sup>41</sup> in a convex shape.

<sup>42</sup> in the concave hemisphere.

ἡμισφαίριον<sup>43</sup>) and exposed in this fashion to the convex distant hemisphere of heaven. The burning-glasses must also be fully and carefully polished. The first of the burning-glasses is 6 or 12 inches in circumference and the second (No. 2 in the illustration) either 12 or 14 inches, but the third must be 16 or 18 inches. The lenses must be placed equidistantly, so that one focus can reach the other as far as its centre (No. 4 in the diagram). You must also adjust the magic machine in the manner shown in the second illustration when using it for the strong distillation of mercury. The tablet shown as No. 4 in the first illustration must also have wheels and rollers fitted underneath it so that the table on which the material to be heated is placed can be moved backwards and forwards in front of the magic machine, for this is the sacred and celestial fire of the old Philosophers which penetrates to the inner fundamental essence of all things with its pure spirit, brilliance and brightness, which an Adept must reciprocate(?) by steering the magic machine towards the outflow of godly celestial heat in accordance with the specific requirements of the materials that he has in his hands. If the last focus reaches as far as the centre (No. 4 in the first illustration), where the mercury is (contained in the alembic) then the Spirit of Mercury will rise (No. 5 in the illustration). No. 6 is a glass crystal globe containing fresh well-water in addition to, depending on need, some nitre for cooling or, in the opposite situation, some hot salts (as long as *sal tartari fixum* is one of those salts). No. 7 are top-fittings made of oak or another hard wood. No. 8 is a sand-basin. No. 9 is a stick or gig in which the three burning-glasses stand on four rods so that they can be moved up and down via a turning-joint, as also underneath, where they can be raised up and down on the stick by turning screws. No. 10 is the open glass dish in which not only all salts but also all minerals and metals and all vegetable and animal bodies must be calcined and urged towards attraction and be forced into the removal of their impurities, for which purpose also they must pass through this celestial fire so as to magnetically attract the Spirit of the World all the more frequently in both quantity and quality, and so that they can be cleansed and healed of the sickness that is within their natures and thus achieve the pure paradisiacal nature, to then become celestial creatures and fully lay aside their earthliness. No. 11 is a stick or block several inches thick on which the dish No. 10 is placed. No. 12 is a glass water-pitcher. No. 13 is a glass basin. No. 14 is the glass vessel containing the flowers. No. 15 is the glass vessel that must be luted below at letter b. of No. 14. The stopper for this vessel is No. 16. No. 17 is the round glass with small holes all around it. It too is associated with No. 14 letter a., and should be inserted into the base of the belly of the vessel and the flowers then placed upon it. It is from these flowers that the Quintessence must be extracted with our

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<sup>43</sup> Greek, hēmisphairion, hemisphere.

magic or magnetic celestial heat-attracting machine. No. 18 are the 'Renien', i.e. the goggles with green lenses which make it possible to look into the fire calmly and without movement. You must use this magnetic machine to work on precious stones, and when you do so you must continue to search for the same inner essence. For more on this topic see below, page [ ], under General Observations.

**The magic machine and the vessels required for the procedures of the Wise, first illustration.** [See Volume 1 fig. 38]

**Second illustration.** [See Volume 1 fig. 39]

**Third illustration.** [See Volume 1 fig. 40]

### **Description of the magic machine**

No. 1, the sign of the Sun.

[A, B and C show the convex burning-glasses, the first of which, indicated by letter M, is 6 or 12 inches in circumference, the second, indicated by letter O, is 12 or 14, and the third, indicated by letter Q, is 16 or 18 inches. These must be placed equidistantly so that one focus can reach the other right in the centre. D is where the mercury is placed. E is the rising of the Spirit of Mercury. F is a glass globe filled with fresh well-water. G is a stick made of oak or another hard wood. H is a sand-basin. I is an inch-thick board or turning-rod on which the burning-glasses are placed. K is an open glass dish. L is the stick on which the dish is placed. M is a glass bottle. N is a glass basin. O is the glass vase containing the flowers. P is the glass which has to be luted at letter b. Q is the stopper for this vessel. R is the globular glass vessel with small holes and relates to letter a. No. S are the 'Renien', the goggles with green lenses that make it possible to work with precious stones.]

### **General Observations**

For the purpose of the implementation and use of this magic machine we shall provide you with information on how and in what way the common Spirit of Mercury, which can never be brought back to its *primum ens* (first essence), can be produced. If you place common mercury, as shown in the drawing of the machine, into an alembic then you must put a lid on it and set out the various receptacles as indicated by Nos. 4 and 5. Behind the apparatus you must insert [the water-globe F, N.B. this globe is very

important!] which must be opened up and not closed again. If the water-level is too low then it must be topped up.

When all this has been done, place the machine so that it faces the Sun's rays with such a degree of precision that the 3rd degree of focus reaches the mercury in the alembic and is able to apply to it its heat, whereby it will drive the mercury up above the lid so that it may then develop into the Spirit of Mercury.

N.B. It is well-known to investigators that an excessively rapid and sudden application of heat is harmful. You therefore need to know that the stick, along with the machine, should be initially be placed somewhat further than the focus reaches, and then gradually moved towards the focus and therefore towards the point of strongest heat, since it will then act there vigorously, will enter the apparatus and then be resolved into a spirit or viscous liquid, which will exert power and strength there.

N.B. All metallic bodies can return to their *prima materia* or prime matter, i.e. to their first natural essence, and thus a spiritual being can be turned back into a corporeal one and thus be returned to the Artist for his further use and exploitation.

Note: in and of itself there is nothing more to be desired of this Spirit of Mercury than that its spirit be coagulated in an open glass dish by the use of magic natural heat to once again form a metallic stone and then be melted by and in our magic natural heat to form a vitreous substance or salamander. In this case our philosophical glass is called the Stone, and is something that in particular cases can achieve great things.

We now want to explain how such procedures should be performed and how especially they can serve man for the purposes of health and the maintenance of his body. We shall say just one thing about this subject: take 1 part of our metallic glass (finely ground) and fuse it with 100 parts of fine silver in and with our heat. You will now have a white brittle substance that quite readily reduces to powder through pounding and rubbing. Now take 1 part of this powder along with 1000 parts of common mercury, place them in an open glass dish, and expose the mixture to our fire. The mixture will start to smoke. You will think that you have fixed it to form the finest silver because this silver is extremely compact and is the same weight as the gold.

N.B. Melt this substance. To 1 mark of this silver now add 4 half-ounces of red copper. The silver will open its bonds to it and close its pores to it due to the coppery sulfur within it, and should prove to be of a high consistency when this process has been completed.

N.B. Add gold to this vitreous stone and expose it to our heat in the same manner as you have done with the silver. This will increase its utility, for it is essentially one and

the same process. When our philosophical vitreous stone is used as a medicine for a specific illness it is recommended that, because it will be so very hot, it should not be directly ingested, considering also that it will not be clean enough and that its crust will have been removed only a short time before. Apart from that caveat you should proceed as follows:

Place a small piece of this vitreous stone into a glass of wine and allow it to stand for 12 hours. Now get the patient to drink it up and so induce a sweat. Many impurities will be expelled from the patient in his faeces and his urine and he will be restored to health without further medication except for the assistance of GOD.

In times of pestilence and when infected air is present this is a universal medicine.

### **The art and use of our natural magic heat, and how and in what manner polished and natural ores as well as all the minerals can be refined.**

You can therefore refine all gold, silver, iron, mercury, tin, copper and ores, as well as minerals as they are found in nature, e.g. gold pyrites, copper pyrites, sulfur pyrites, antimony pyrites, water pyrites<sup>44</sup>, pitchblend[?], bismuth, Glanz<sup>45</sup>, litharge, arsenical compounds, antimonials, cobalt, marcasite, spar minerals, sory, Jockelnkierster<sup>46</sup>, horn-stone, garnet, kidney-stones(?), Japan earth, Keppelbraun<sup>47</sup>, Sallenober<sup>48</sup>, shining silver-ore, siliceo-carbonate of zinc, talcs of all kinds, vitriol, stone-alum, raw sulfur and other kinds of sulfur, crystallised tin-ore from gold, sand and slurries, red, yellow and green earths which are so mineral in character that they are quite lumpy, and all flawed metals and minerals. The main rule to follow when using these substances with this machine is as follows:

Select from nature or take from your own collection a polished or natural mineral, whatever it may be, such as is to be found in large quantities in the mountains, then tap it firmly as it comes straight from the lye, and wash the mountain-earth off it as much as it will allow so that you can see it properly. Now turn on your machine. Spread the slurry on a [a wide and smooth grinding-stone or marble slab]. Pile up the previously dried slurry and leave it in your magic machine so that it is calcined. To assist with this task you can constantly stir the mixture with a piece of wood or, better still, a glass rod so that the heat falls evenly across the slurry and so you can skim off the

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<sup>44</sup> i.e. white pyrites.

<sup>45</sup> I have not been able to find an equivalent for this term.

<sup>46</sup> ditto.

<sup>47</sup> ditto.

<sup>48</sup> ditto.

calcinate when the process is complete. Through this procedure you will reap a rich harvest and experience a great multiplication, and will see the wonder of GOD, namely how, through this magical arrangement, the Spirit of the World accumulates within the material; how blessed your Work is; and how natural ores of this kind, with eternal gratitude to GOD, reach maturity and are fixed without any further substance or additive, so that the finest and most consistent metals are produced. And so the procedure comes to an end through the great mercy of GOD.

### **Second procedure**

In the name of GOD, take your blessed and calcined mineral, place it in a wide and strong glass dish and allow the magic heat to fall onto the strongest part of it right in the middle. In just a short time it will melt without the need for an application of clean water. Once the melting is complete, switch the machine off, allow it to cool, and remove the mineral. And so the second procedure is performed with great joy and increase.

### **Third procedure**

This procedure is a miracle and a great secret. The most important part of it lies in the refining.

In the highest name, that is to say that of JEHOVA, take a suitably strong and thick glass dish that resembles [a basin] in shape but which is somewhat more convex than that. Into it place your molten metal and then add some lead as is suitable and necessary for driving off the impurities (for lead is the master of all the metals when it comes to washing them clean, as we can see with antimony). Now turn on your machine and your magic heat. Allow the heat to penetrate the metal so that it is cleansed by the driving-off of the impurities. Somewhat illogically, the lead will also be removed so that only the finest alloy remains (N.B. which will stand higher in the more convex dish than would be the case with a basin).

N.B. If you use an ordinary basin with this magic fire then it will not work properly because the Spirit of the World sinks too softly into the basin and the experiment is therefore disrupted.

### **Fourth and final procedure**

This procedure shows how an alloy of gold and silver from which the impurities have been driven off and which has been fixed must be separated. For this purpose place the alloy on a glass dish, as deep as is necessary, turn on your machine, and apply the heat to the alloy until it melts. After a while add a little nitre. The gold and silver will



then be cleansed and will separate, with the silver turning into a slurry along with the nitre.

N.B. With this procedure you once again achieve a multiplication and increase.

N.B. In this procedure the nitre gently sinks the Spirit of the World into itself and does the same with the fixing (i.e. the metals in the fire are also fixed and never assume corporeal form).

The top layer of slurry containing the lead is now driven off into the fire as we mentioned above. Now remove the [glass basin]. Thanks to this procedure you now have both silver and gold, each carefully cleansed and separated. Your Work - which will have been more angelic than human in character - along with the magic central heat, which is the greatest miracle of GOD, now comes to an end, something for which the Eternal Majesty should be praised and thanked.

### **The Secret of Secrets**

We say that no one (yes, no one at all) from the whole of humanity who tries to prepare this, the Great Secret, without a knowledge of our magic heat, which is also called the natural and philosophical fire, or Our Work, or the Great Work, or the Secret of all Secrets, which from the beginning to the end of all things has drawn its most holy origin from the divine eternal foundation and will eternally possess and be the master of those divine origins, can ever hope to succeed. And for that reason all those of you who embark upon such ventures (viz. such godly vocations) should make sure that you act according to the values of the Holy SPIRIT (viz. you should make yourself a seeker after holiness). If you do then you will be granted that which leads to the light of eternal unity. Amen.

### **General Observations**

We now wish to summarise our vocation and with the help of God the Holy GHOST provide an introduction to the true knowledge of our philosophical work and of how everything radiates from the eternal centre and illuminates us amidst beneficent Nature.

But first, before we write about the great Universal of the microcosm and the macrocosm, we want to deal with the mineral kingdom and discuss the process of ensuring that flawed and defective metals can enter the highest solar House of Honour, and how in the process we poor people can be put to some use. In this operation we are therefore going to ignore the Spirit of Mercury which we discussed at the beginning and concentrate on the transmutation of the poorer-quality metals, viz. minerals that are not

yet metallic but which have made a start on becoming such. This mineral was once a unity, and even if it is now only a blend then it will still be found in the mixture along with the various impurities. So take this mineral, crush it and calcine it in a glass vessel using our machine and its heat. The Spirit of the World will then be augmented within it and impregnate it with fruits a thousandfold.

Now that this has been done, place this fine gold in a vessel along with that substance that acts as the masculine to the gold's feminine. The latter will copulate with the gold. Now leave the two substances beneath our priestly spiritual heat and allow them to flow together to form a lye for as long as it takes for the mass to turn a shiny green all over and to glow a reasonably fiery-red. Now remove it from the machine while uttering the very highest names of GOD.

N.B. You now have an indescribable treasure which will never be exhausted either as a medicine or as a food.

Note: this treasure is our philosophical and mineral stone which shines like a carbuncle would in comparison to an ordinary stone. Take 1 part of this stone and 1000 parts of finished gold and allow them to melt beneath our secret magic heat. The mixture will be augmented for many hours and finally become a powder of a very deep red. Now take 1 part of this with 100 000 parts of the flawed metal and allow them to flow together. The whole mass will turn into the highest and finest gold which could ever be found in this world, and you owe it to God to thank Him eternally.

J. K. M. F. B.<sup>49</sup>

**The basic rule of how our magic heat machine should be assembled and arranged for every task, as well as a description of the philosophical vessels, glasses and other very necessary items required for these tasks,** as also the additional attachments for the furnace (see section 2, the sign of the sun and moon) along with the double-alembic, and how the globular apparatus is attached to this double-alembic together with the beak which is all of a piece with it so that the Spirit of the World can be extracted by our secret magic heat machine pure and clean, *per se*, without the slightest additive both in quantity and quality, and with the air as its only clothing, and how such a thing is affected by the stars and is impregnated in the atmosphere and so becomes pregnant, once again through this our secret magic machine, and how the alembic must stand in relation to the furnace, which is our secret philosophical magic receptacle, so that in a very short time, in fact in a few hours, it can

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<sup>49</sup> I do not know what these letters stand for.

attract a large quantity of many masses of the blessed and all-vivifying World Spirit without any assistance apart from our secret magic machine and the philosophical receptacles required for it to create gold, as well as of course the proper behaviour and and scholarship, and how our secret magic machine can be fundamentally adjusted to suit all substances and all our various effects as described to you above for each degree of heat and how all our secret philosophical actions and operations can be used throughout nature, as follows:

First you need to know that [the larger the burning-glasses, as illustrated above, then the more power you have to complete some tasks, but that for our work as described above you will have enough power with M.O.P.Q. inches, up to Z inches as the maximum] because an excessive degree of power, whether it comes direct from nature or not, subsequently injures and overwhelms its lesser gender, and if this foolishness is engaged in then the task cannot be completed.

For each procedure a specific type of heat is required. It should also be noted that if you use fusion-fire [in which case you should set the largest burning-glass so that it is at the front of the machine, facing towards the sun] then the machine will cast its rays all the more strongly onto the material to fuse it together into [a joint]. If however you want to perform a distillation then [turn your machine around so that the smallest burning-glass is facing the sun]. This ensures that the rays are cast further. In this case the entire glass, along with the material, is set up similarly to the [machine when it is used with the Spirit of Mercury]. If you want to use digestive-heat or even some weaker form of heat then [you should retract either the machine or the ] material [to be heated, so that they are somewhat further apart, or else place a large glass globe full of fresh water between them].

If however you want to use the machine to fuse, calcine *and* digest then you must arrange matters so that the magic astral heat [sheds its central rays precisely onto the material].

N.M.B.<sup>50</sup> This is the main rule for all those tasks in which you are receiving instruction and being encouraged to undertake further experiments to investigate nature.

Second, you need to know that our secret philosophical receptacle must, in order to attract the Spirit of the World, be free of any foreign bodies. It will then be required for use in our magic astral heat machine as mentioned above. In section 2, the sign of the Sun, you can see a small furnace along with its accessories, onto which the receptacle is placed in a gentle heat, which stimulates for us the internal air, and then, when our

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<sup>50</sup> I do not know what these letters stand for.

magic heat machine is placed above it, against the double-alembic, nothing other than the pure Spirit of the World may enter through the holes and into the globular apparatus, thus:

**Regarding receptacle No. 2, or the machine with which one can obtain the Spirit of the World *per se*, and how it is used.**

See illustration on page [ ]

The still and the double-alembic must be made in one piece. The four holes which can be seen in the double-alembic must be present on each side, making 16 in total, and they must be on all 4 sides, i.e. 4 facing east, 4 facing west, 4 facing south and 4 facing north, and be in the middle of the double-alembic. They should be sufficiently large that a man's little finger can be inserted into them. The holes enable air from all four directions of the heavens to pass through the device. The lower alembic is placed, empty, into a basin filled with sulphur vivum and then laid in the furnace among clean, well-washed (and then well-dried again) glowing coals, which one should leave to burn as profusely as is consistent with avoiding the creation of noxious fumes. The fire must not be too strong, so that it is still possible for you to place your hand comfortably on the lower alembic. The oven needs only two valves. The beak of the still of the double-alembic must be 2 feet (or 1 ell) long. The apparatus should be of medium size, but globular in shape. When you want to perform our Work it must be as fine and as clear a day as possible. You should then walk around your piece of rising-ground and briefly enclose it for a quarter of an hour in the open air with water and wood. When you are happy that all the warnings given above have been heeded, place the furnace and a pedestal 2 ells high<sup>51</sup> along with the receptacle into position and then leave them from 9 a.m. to 3 p.m. Our secret magic heat machine, as shown in the illustration 'at the sign of the Sun' must be turned towards the Sun in the manner described to you above so that the rays of the distributed masses are allowed to fall with their greatest strength onto either the top or the bottom of the double-alembic. Please note however that this should be done gradually, per degree, as these rays may fall around the holes in the double-alembic to which we have referred above, and nothing unclean or coarse must be allowed through these 16 gates. Now you should expel everything that is not celestially pure and which is counter to the essence of light and life. This Cherub immediately separates these impurities with his two swift fiery swords (i.e. the falling rays) to form a

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<sup>51</sup> i.e. 4 feet high.

sediment, and cuts through to the inner centre, allowing nothing except the pure paradisiacal body, i.e. the true and just Spirit of the World filled with pure light, to enter the gates of the Glass Paradise, i.e. to pass through the openings in the double-alembic, through the narrow gates, that is to say through the beak of the alembic, into Paradise or into the new paradisiacal world which is to be found in the pure globe-like apparatus. In this way you shall come to know the pure and good Spirit of the World. After the procedure is completed the Spirit of the World is poured out of the apparatus into a good strong and clean vessel which is not yet half-filled with it and then carefully stored, filled with the Spirit, in a cool place.

N.B. In the springtime this substance is mercurial in character and in the autumn sulfuric.

We could conclude matters at this point by briefly stating that a person can earn his crust by using this magic heat machine just once, twice or at the most three times a year, provided however that the vessels are covered and that the rays do not fall upon them or heat them up excessively and cause havoc with them. In so doing he would, through this grace of GOD and the powers of the light, secure for himself a long and fully rejuvenated life, and thus in, with and through GOD, and in the childlike fear of the LORD and with the incessant praise of GOD he may make his exit at the appropriate time and thus enter into the eternal light. Amen.

Note: I also want to remind you that, if you are working with fire and you suddenly find yourself breathing in a dark cloud of smoke you can immediately fit a cover of canvas (soaked so as to make it softer) as well as a saddle or lid padded underneath with flannel or wadding both around the 3 main burning-glasses in the magic machine and also on top of the machine itself, so that you can withstand the fire. These covers can then be removed again in a trice. This is an aid to working that no Philosopher has ever revealed before.

Note.

The original of this very secret (but nonetheless quite openly published) Paracelsian document contained the signatures of the following five Holy Roman Emperors, which were written on the parchment in red and gold letters:

Charles V

Ferdinand I

To God the Sun Maximilian II

Glory

Rudolph II

Matthias I

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## **Appendix 5. *Four Seals* script and *Speculum* script**

The following texts were written in response to first four seals of *The Ripley Scroll*. They were subsequently used in the first draft of the film *Speculum*, originally entitled *Four Seals*. See *Selected Works* DVD (2014). The final voice-over script for *Speculum* was devised from John Dees *Monas Hieroglyphica*, also included in this appendix below.

### ***Four Seals* voice-over texts and their textual transformations**

#### ***The first seal***

*My written response to the first seal of the Ripley Scroll:*

I am in solution, a solution  
Am I a solution, or is the solution entwined in me?  
Nothing here is burning  
Drops fall, around I and on Earth.  
I find myself coupled here on the earth,  
Together inside with she on Earth  
Dissolving, yet rising as a bird, a song  
I congeal, I am told, some kind of spirit to the body  
It seems I am to bind all that volatility  
of ephemeral nature, sun and moon  
Back to that same body from which I myself come forth.

*The above text was then put through Google Translate to give a mistranslation into Latin:*

Ego in solutio, solutiones  
Ego solutionem vel solutionem implexus me?  
Nihil hic est igneus  
Guttis cadent circa te, et in terra.  
Hic iunctae invenio me in terram  
Una cum terris inside  
Dissolvens, sed ortus avis, Canticum  
CONSTAGNO ego sum dixi, quaedam animi est corporis  
Videtur mihi alligandi omnes qui LEVITAS  
BREVIS de natura solis et lunae

Lorem ipsum corpus quod ipse processit.

*The mistranslated text was then randomised and mixed with the original English:*

Igneus vel fall solutionem is volatility ipse sed processit on in solis Drops Am LEVITAS  
avis me, Una me? corporis vel ipse which sum vel come a dixi qui est nature me inside of  
am solutio kind with song CONSTAGNO Ego here de from kind cadent invenio body  
solutionem with circa same It fall around body here et sed ipse yet BREVIS body de de  
Ego Back igneus dixi quod Together corporis solutiones the song solutio volatility Ego  
hic same some Back CONSTAGNO quaedam burning de terram vel animi volatility come  
congeal processit and avis same from quaedam me seems solutio lunae solution Am dixi  
ephemeral that hic cadent mihi all Back Dissolvens quaedam solutiones alligandi song  
and ipse solution am Nothing te from cum all CONSTAGNO I lunae quod Ego dixi same  
Guttis terra sum burning quaedam congeal is which Dissolvens Nihil mihi cum qui qui  
solis ipse circa solution terris

*Then again mistranslated using Google translate to turn it back to English, edited to make  
some kind of linguistic sense:*

Fall fire or the solution of this volatility  
Volatility drops bird, or one me?  
I said I am who comes from the body, either of which  
I am that I was born inside of the solution  
A kind song with Congeal  
I am the master of the kind I will fall from  
I find the solution of the body  
with about the same around It I Fall  
but short-lived she of the body yet  
I have said that I am out of the fiery black  
Together the body solutions  
I have here some volatility,  
Some burning of the earth  
volatility of the mind or congealing  
a bird went forth from the same  
Solution of the moon seems to me the solution  
I have said here that they shall fall by ephemeral



Dissolving solutions to bind a certain song  
Solution is nothing and he from you will CONGEAL  
One that I am the moon  
I said I am the land of burning drops of the same kind  
Of dissolving it, nothing may congeal  
A solution about the earth

***The second seal***

*My written response to the second seal:*

I am weakened by humidity and heat  
This humidity and heat bearing down upon me  
I am smothered, enfolded, bathed and heated  
Humidity descends, gets in my pores  
Gets to my blood, slowing, diluting  
But for the heat, which softens me  
Rises through me, animates everything that is fixed.  
Uncoagulating all the solid, unbending thoughts  
Weakening that which I thought strong  
The unfixing of the fixed  
The slow undoing of the done  
I am weakened, not broken or brittle  
I eat this humidity, take it inside.

*Google Translate's mistranslation to Latin:*

Infractus sim humidum et calidum  
Hoc humidum et calidum super me ferens  
Ego suffocatur, IMPLEXUS, calefactum et lotus  
Umor descendit, gets in poris  
Appropinquat meum sanguinem slowing, diluting  
Sed calor, qui me mitigat  
Surgit per me animat omnia fixa.  
Uncoagulating omnia solida cogitationes INFLEXIBILIS  
Putavi quod debilitato strong  
The unfixing of fixarum

De dissolvendo tardus completae  
Sum attenuata, non frangitur  
Manducabo illud humidum, capta intus.

*Randomised and mixed with the original English:*

humidity poris sim this humidity Gets INFLEXIBILIS Umor sanguinem calidum is Surgit  
Putavi heated dissolvendo IMPLEXUS bathed slowing done bearing everything Hoc  
diluting blood IMPLEXUS done IMPLEXUS sanguinem Putavi illud is strong which  
thoughts I bearing taken enfoldedof quod of weakened INFLEXIBILIS Ego Gets gets done  
Sum the fixed to Ego diluting capta Humidity humidum animat But Weakening Humidity  
is humidity unfixing Rises poris of this solid animates gets am illud not I mitigat animat  
am completae that lotus eat thoughts attenuata sanguinem completae me IMPLEXUS  
gets down thoughts cogitationes done inside bearing Sum upon fixed for smothered  
But IMPLEXUS heated not super not debilitato for by eating that qui Appropinquat me  
Hoc thought eat not through dissolvendo sim in suffocatur sim gets humidum non pores  
animates Uncoagulating tardus super which weakened is not illud weakened fixarum to  
get everything Of which This Uncoagulating Surgit is fixed by

*Then again mistranslated using Google translate to turn it back to English*

I am the pores of humidity this gets humidity INFLEXIBLE  
Humidity rises in hot blood I thought dissolving heated ENTWINED  
Bathed, slowing everything bearing This diluting blood ENFOLDED ENFOLDED blood I  
thought that this strong Taken bearing thoughts which enfolded of and  
of weakened INFLEXIBLE I gets gets I Am the Fixed diluting to I Humidity was taken  
moist animates But it Weakening Humidity Rise humidity unfixing body of this solid  
animate I am not mitigated by it get completely animate being washed with weakened  
thoughts that go to me of a complete blood ENFOLDED gets down thoughts thoughts  
inside I am smothered for Fixed bearing upon But heated ENTWINED not upon not  
weakened for that approach to me that by eating this thought not to go through  
dissolving I am not the moisture which gets in the time by which I am choked  
animate Uncoagulating upon which weakened it is not that slow weakened to get  
everything fixedThis Uncoagulating of which it rises by Fixed

*I applied a second random mixture of the two for this passage:*

Hoc Putavi, Eat enfolded upon calefactum, bathed heat, omnia of all debilitato, for Rises super ferens mitigat, smothered slowing diluting, omnia strong. The Sum non Hoc thought, me qui omnia to solida, all humidity unfixing smothered, enfolded slowing thought animates, Surgit solida Surgit descends, tardus slowing Weakening smothered, in softens, But my for animates unbending. taken Putavi unbending INFLEXIBILIS fixa in calidum frangitur Humidity descendit humidity everything INFLEXIBILIS my sanguinem per ferens debilitato smothered Sum per for down am calidum Infractus fixa fixed done calidum frangitur non Et in thoughts Uncoagulating which et fixa But animat fixarum Appropinquat heat thought not Appropinquat Humidity animat sanguinem of bearing animat calidum softens heat solid debilitato upon the et through softens solida qui sim non lotus Gets weakened calefactum This descends that descends debilitato per enfolded IMPLEXUS Putavi am solid mitigat weakened.

*Then again mistranslated using Google translate to turn it back to English, edited to make some kind of linguistic sense:*

This I have thought, enfolded upon heated, heat bathed,  
weakened all of all things, for bringing on the Rise, soothe it,  
diluting smothered slowing, all strong.  
The thought I am not this, to me, all solid  
all smothered unfixing humidity,  
enfolded slowing thought animated,  
Solid rises, rises, comes down,  
Weakening slowing slow smothered it softens,  
But for my unbending animate.  
I thought unbending, UNBENDING fixed  
Humidity went down into a hot broken humidity  
everything INFLEXIBLE  
weakened by the blood of my bringing  
I am down for smothered by hot  
Fixed broken, fixed hot  
And in the thoughts it is not broken  
Which Uncoagulating and fixed

***The third seal***

*My written response to the third seal:*

I am digested and I rise  
Is it you or I that rise?  
In fact it is you who rises, taking the exalted part  
leaving me there, half dead in the vessel  
From one become two, or three separate selves.  
It is the vapor of my body that rises  
And becomes the dew that condenses  
Carried in a ghostly form,  
from my body becomes your body  
But separated, distilled as the exalted part.  
Who now is the gross, and who the exalted?  
I am a mind haunted by your absence.  
And I gave my self up, to be you, bit by bit  
Vapor by ghostly vapor.

*Google Translate's mistranslation to Latin:*

Surge et ego digesta  
An tu aut ego quod surgat?  
Nam est qui surgit excelsum partem accepta  
reliquit me semivivum in AMPULLA  
Ab uno fiunt duo, vel tres dividendis.  
Vapor est enim corpus meum ut surgentem  
Legem: eliquatus est et fit ros  
INANIS ferri a forma,  
corpus a corpore  
Sed separatur, et excelsum Legem: eliquatus est.  
Quis nunc grossioribus et excelsum?  
Ego animus per absentiam adhaerescere.  
Et ego dedi eum ad te, incremento  
By INANIS vapor nebulae.

*Randomised and mixed with the original English:*

eum It animus By exalted uno Surge digesta ego ros vessel separatur excelsum? and rise separatur Ego excelsum But condenses INANIS Vapor per me who est half be and leaving accepta Sed haunted quod An part Ego now INANIS vapor exalted? ros be surgentem as From per ferri Surge condenses vapor AMPULLA who enim Ego tu aut est corpus separate rise dividētis qui digested taking meum exalted? corpus is Who am meum ferri eum accepta ut absence up INANIS quod tu partem exalted? aut excelsum ros It dedi becomes surgat? gross digesta ghostly is quod adhaerescere I meum becomes quod nebulae Ego Surge exalted dividētis duo is aut three three exalted? per a dividētis ros ros up the INANIS that digesta be haunted Who dedi body to tu reliquit corpus nunc your grossioribus you digested Et Vapor aut qui excelsum te as gross surgentem It separate Is separatur ut body Who part or per Quis Carried be half dividētis leaving who ego Ab forma now gave Legem ut now in a to leaving body vel dew gross selves three An est excelsum? the become self

*Then again mistranslated using Google translate to turn it back to English, edited to make some kind of linguistic sense:*

An exalted mind, by him I am digested  
 Arising in one vessel it is separated  
 Dew, thick and high I rise  
 separated by a vapor  
 Empty who is leaving, Half received,  
 haunted, but now empty handed  
 Vapor of an exalted part be as the dew rises,  
 Arising from the thick vapor of iron by the body  
 Either a separate vessel rising, dividing those who you and I am  
 Taking my exalted part and digesting  
 The absence rises Empty-handed  
 It became the dew I have given, or high rising?  
 Gross ghostly digested it  
 And that became my haunting of the cloud,  
 I arise dividing the two exalted to three.  
 Dew, dew.  
 That dividing up of the empty handed be digested  
 I have given to the body of your larger body

And you as a vapor who high it rises,  
Who carried by dividing half  
leaving the form of the law now that I gave  
now leaving in a body three selves  
Gross dew became the self.

***The fourth seal***

*My written response to the fourth seal:*

You elevate and separate me  
But what kind of matter is this that you are dividing?  
More than a body, more than light and vapour  
Matter is almost empty space  
You liberate my space from my solidity  
I am somewhere entwined in the flux  
Between matter and thought, I am both seen and imagined  
The form of emptiness and the emptiness of form  
Each colour that I become  
Is wrought through the pain of separation  
The pain of birth tearing apart my body  
A divided self, reduced, made simple  
While my children are given to life.

*Google Translate's mistranslation to Latin:*

Extollere te separa me  
Sed quid est quod quaedam res sunt dividente  
Corpus plus quam lux et vapor  
Materia paene inane  
Liberator meus es ex soliditate loci  
Ego in quodam fluxu, blatta  
Inter materiam et cogitatione fingi me et viderunt et  
Forma inanitatem et vacuitatem forma  
Quisque ut fiam color  
Poena fit per separationem

Dolor partus sine corpore abscissa  
A se divisum redactus, simpliciores facti  
Cum liberis datur vita.

*Randomised and mixed with the original English:*

vacuitatem The almost me flux fiam somewhere Dolor somewhere per solidity Forma  
given A entwined viderunt what than this liberate forma separa quodam Sed quam sunt  
made et You and Corpus from empty reduced body ex fluxu per the what Matter become  
colour lux simple dividente fluxu et Liberator become Quisque dividing? paene children  
both quid tearing solidity dividing? from am per Ego seen matter form empty  
vacuitatem to A You a Is pain Each thought Corpus materiam liberate space Cum  
soliditate you meus what te Quisque fluxu vacuitatem inanitatem are light divided body  
per my than in est materiam reduced Quisque inane divided life Materia light abscissa  
Between this Extollere quam in seen While the sunt than inane te of fiam plus is tearing  
vapor thought fingi self vapour soliditate color se given space this per liberis elevate to  
you both imagined pain a Poena simple viderunt quod kind color what divisum Poena  
the ex quid apart made fluxu inane simple A Sed

*Then again mistranslated using Google translate to turn it back to English, edited to make  
some kind of linguistic sense:*

Almost by the form of solidity I am given a separate form  
Entwined and delivered, it is what they saw  
Made certain, but you are reduced to an empty body  
Issuing from the body dividing  
the simple issuing became of the light and colour  
Becoming the liberator of each one dividing

I am seen by you as an empty form  
The body divided as you colour imagined  
The thought of the body wrought from pain  
This solid matter is delivering of my empty space  
An issuing of freedom emptying out the light  
Divided by the body rather than by matter  
I am reduced in the matter of light

Each life flux  
It is divided between the seen and the empty  
I should be tearing at this vaporous space  
He thought the color of this solid vapour was an imagined self  
You lifting up the child's penalty of pain  
Both imagined they saw of what kind, of what color,  
Of what was divided.  
We are cast up somewhere within the matter  
A simple issuing forth of emptiness



## Voice-over script for *Speculum*

Read by John Lambert.

Based on Josten's translation of the *Monas Hieroglyphica*, plus Hamilton Jones, but substantially reworded:

(Theorem 1 & 2) – 1, the point and the periphery

“There is first the straight line and the circle. The line cannot be produced without the point. Everything on the circular periphery, whatever its size and distance, owes itself to the central point.”

(Theorem 6) – numbers 1, 3, 4, 8 & 7, the four elements and body, soul spirit

“The rectilinear cross gives us both the *three* and the *four*. The *three* is derived from *two* straight lines, the common point of intersection itself being the *third*. The *four* is derived from *four* straight lines, which in creating *four* right angles, gives us the secret power of *eight*. From the *three* and the *four*, we are further given the *seven*, through *two* straight lines and a *point*, and *four* straight lines emanating, or separating from the one of the *point*.”

We have here the four elements emanating from a point (4), and the body soul spirit (3) overlaid, or preceding the four elements. The four elements also make an eight in their structure. And the elements added to the body soul spirit, make a seven.

(Theorem 7) – 1, flowing outward of the elements

“The point is indivisible. The straight line is the flowing outward of a point. Our falling drops are like mathematical points, forming together in succession, to make a flow.”

(Theorem 8) – 1, 2, 3, 4 & 10, 21, 7, 3 & X

“*One* and *two* and *three* and *four* added together give us the *ten*. The *ten* is the *twenty-first* letter of the Roman alphabet, which is also our rectilinear cross of *four*. The *twenty-first* is derived from the *seven* multiplied by the *three*.”

(Theorem 16) – the X and the V, 10 and 5, 20, 25

“The lines on the cross, passing through the point, or emanating from it, are equal in length. Therefore they form the cross at the *twenty first* position in the alphabet and are identical to the Roman numeral for *ten*. By a halving of the *ten*

of the cross through symmetry, we are given the *fifth* vowel and the Roman numeral for *five*. The *five* is circular and is a squaring of square roots, from which *twenty-five* is produced. Five is the *twentieth* letter and the *fifth* of the vowels.”

L – 50, 5, 10, 100:

“From our cross, by means of a rotation and a separation, the Roman numeral for *fifty* is further derived. It is a notation of the *five*, extracted from the *ten* of the cross, creating an offspring of the *fifty*. The *fifty*, represented hieroglyphically as the numeral “L” refers back to the *ten* through its positioning as the *tenth* letter from both “A” and “X”. Since the cross contains *two* of the *fifty* in its symmetry, we grow out of it the number *one hundred*.”

50 x 50, 2,500, 25, 100, 1, 10 100:

If the two *fifties* are multiplied one with the other, we get *two thousand five hundred*. When dividing this by the square of *five*, the *twenty five*, it will give us back the *one hundred*. The cross therefore, when explaining itself by means of its *ten*, references the *one hundred*. These proportions may therefore lead us count *one, ten, one hundred*.

(Theorem 17) - 4, 5, 50, 10, 21, 1, 20, 200, = 252

The *four* right angles give us the *four*, plus the hieroglyphic symbols for *five*, *fifty*, *ten* and *twenty-one*. *Four times five* is *twenty*. *Four times fifty* is *two hundred*. Then add the *ten*, the *twenty one* and the *one*, giving rise to *two hundred and fifty two*.

We can see that the cross can be divided into three letters, having a verbal power as well as a numerical one. From the cross is born “L”, “V”, “X”, corresponding to three numbers – the *fifty*, the *five* and the *ten*, with all the derivations and extrapolations. In its verbal power “L”, “V”, “X”, or *Lux*, is *Light*. From the hieroglyph, *Light* is born and this is the final word.