The Royal Typographer and the Alchemist: John Dee, Willem Silvius, and the Diagrammatic Alchemy of the *Monas Hieroglyphica*

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Abstract: John Dee’s *Monas Hieroglyphica* (1564) was a work which involved a close collaboration between its author and his ‘singular friend’ the Antwerp printer Willem Silvius, in whose house Dee was living whilst he composed the work and saw it through the press. This article considers the reasons why Dee chose to collaborate with Silvius, and the importance of the intellectual culture – and the print trade – of the Low Countries to the development of Dee’s outlook. Dee’s *Monas* was probably the first alchemical work which focused exclusively on the diagrammatic representation of the alchemical process, combining diagrams, cosmological schemes and various forms of tabular grid. It is argued that in the *Monas* the boundaries between typography and alchemy are blurred as the diagrams ‘anatomizing’ his hieroglyphic sign (the ‘Monad’) are seen as revealing truths about alchemical substances and processes.

Key words: diagram, print culture, typography, John Dee, Willem Silvius, alchemy.

Why did John Dee go to Antwerp in 1564 in order to publish his recondite alchemical work, the *Monas Hieroglyphica*? What was it that made the Antwerp printer Willem Silvius a suitable candidate for his role as the ‘typographical parent’ of Dee’s work? In this paper I look at the role that Silvius played in the evolution of Dee’s most enigmatic work, and at the ways in which Silvius’s expertise in the reproduction of printed diagrams enabled Dee to make the *Monas* one of the first alchemical works to make systematic use of the diagram was a way of presenting information about the alchemical process.

Despite the fact that John Dee’s famous (and famously obscure) work on alchemy, cabala and Trithemian natural magic, the *Monas Hieroglyphica*, proclaims its author on the title page to be a “Londoner,” it was in fact a profoundly pan-European product. Written and printed in Antwerp in 1564, dedicated to the King of Bohemia and Hungary, Maximilian II, and making several references to lectures that Dee had given in Paris in the 1550s, the work was to be read (and defended) by Queen Elizabeth in the Royal Court at Greenwich shortly after its publication, and was presented, via a Spanish ambassador, to Rudolf II at his court in Prague in 1584. But despite the pan-European destiny of Dee’s work, its inception depended very much on the Low Countries, both for its intellectual inspiration and its physical production. Dee’s years in the Low Countries after he graduated from Cambridge in the 1540s were formative, and his intellectual friendship with his printer was a vital component in bringing his work to fruition.

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Louvain and Dee’s occult philosophy

After graduating from Cambridge in December 1546, Dee travelled to Louvain, and attended the university there from the summer of 1547 until July 1550, receiving his MA in 1548. In the prefatory epistle of the Propaedeumata aphoristica (1558) addressed to Gerard Mercator (dated 20 July 1558), whom he addresses as “by far his dearest friend” (amico suo longe charissimo), Dee speaks fulsomely of his time spent at Louvain. Having “run through all the degrees of our [i.e. the English] schools in the seven arts called liberal,” Dee says, he “undertook to travel into regions across the sea” to meet the great scholars of the continent. He wished to live among scholars, he said “whose lightest single day of writing would have furnished matter enough to require the labor of a full year for comprehension while I formerly sat at home.” Mercator, in particular is credited with having profoundly transformed Dee’s outlook: “From your discussions with me my whole system of philosophizing in the foreign manner laid down its first and deepest roots.”

Dee paints a glowing picture of their friendship, which consisted in a “sweetly protracted cooperation in philosophising” in which they “scarcely left off the investigation of difficult and useful problems for three minutes of an hour.” Dee mentions a recent letter which Mercator had sent him, which had refreshed his memory about their “noble debate” and prompted the subject which he is about to discuss (that is, a new astrological theory based on optics), and it is clear that even after Dee had returned to England, he was still tied to Louvain by epistolary bonds. Dee ends the dedicatory epistle by urging Mercator to publish his own works, thus (like Dee himself) participating in the “Republic of letters.” In his letter to the reader “who is studious in the purer philosophy” (Lectori Philosophiae sincerioris studioso), Dee warns that anybody who turns to his book “from the usual and worn way of philosophizing” (ex Communi, trivite philosophandi via) will be alarmed, and condemn it as a “labyrinth of diverse things.” This is not a philosophy for “unworthy and profane persons” (indignis Profanisque), but (as he says to Mercator) is one which will be “barely credible to a few wise men, but known only to a very few.” It is quite clear, then, that Dee’s travels to Louvain in the 1540s were the motivating force behind his developing interest in alchemy, magic, and the occult philosophy. When Dee returned to the Continent in 1563 to oversee the publication of his Monas Hieroglyphica he wrote to his patron William Cecil, Lord Burghley comparing the scholarly atmosphere of the English universities unfavourably to that of the Low Countries. “Albeit that o[u]r universities... have Men in sundry knowledges right excellent,” he wrote,

as, in Diuinite, the hebrue, greke and latin tung, &c. Yet... the Wisdome Infinite of o Creator, is branched into manifold mo sort of wunderfull Sciences, greatly ayding Dyuine Sights to the better Vew of his Powre and Goodnes... [in which] o[u]r countr hath no man (that I ever yet could hereof) hable to set furth his fote, or shew his hand.

6 Dee, Propaedeumata
7 Dee, Propaedeumata
8 Dee, Propaedeumata, 112-13. Dee refers to “nearly all your letters to me which I have at hand” (literis tuis ad me, fere omnibus, quid ipse prae manibus habeam) which suggests that the correspondence was extensive.
9 Dee, Propaedeumata, 118-119.
11 Dee, Propaedeumata, 120-21.
12 Dee, Propaedeumata, 112-113.
These “wunderfull” sciences were, in essence, concerned with the mystical understandings of number, weight, and measure.  

14 According to Dee, scholars in these kinds of disciplines, and books not available to him in England, were plentiful in Antwerp, and he beseeched Cecil to allow him to remain longer and to continue to support his work.  

15 Dee offered as an example of the importance of his remaining in Antwerp the fact that he had managed to obtain a copy of Johannes Trithemius’s *Steganographia*, “A boke for your honor, or a Prince, so meet, so nedefull and co[m]odious, as in humayne knowledg, none can be meete.”  

16 Given the dedication of the *Monas* and Dee’s subsequent pursuit of Eastern European sources of patronage, it is interesting to note that Dee had managed to find himself an unnamed Hungarian patron whilst in Antwerp. “I stand at the Curtesye of a noble of hungarie,” he said, for writing furth the rest [of Trithemius’s book]: who hath promised me leave therto, after he shall perceyve that I may remayne by him longer (with the leave of my prince) to pleasure him also with such points of Science as at my hands he requireth.  

17 It would be interesting to speculate whether it was this Hungarian nobleman who had suggested that Dee dedicate his work to Maximilian, and whether he accompanied him to the coronation of Maximilian as King of Hungary at Pressburg, which he attended in September 1563.  

18 We know, in any case, that Dee was in Zürich on the 23 April 1563, visiting the Swiss bibliographer and natural historian Conrad Gesner (1515-1565), as he wrote his name in Gesner’s *album amicorum*.  

19 It is also possible that Dee had accompanied him to the Imperial court in Vienna to present the *Monas* to the Emperor’s son Maximilian, as he mentions his “return from the emperor’s court” in June 1564 in an autobiographical account of his life (the *Compendious Rehearsall*) written in 1592, although Josten has doubted whether Dee had time to make this journey.  

**Dee and Silvius**  

The letter which Dee wrote to Cecil, pleading for an extension of his stay in Antwerp was, significantly, written “in Antwerp, in the house of Willem Silvius, at the Golden Angel, on the street

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14 Dee to Cecil, 16 February 1563: “the Science De Numeris formalibus, the Science De Ponderibus mysticis, and ye Science De Mensuris Diuinis: (by which three, the huge frame of this world is fashioned, compact, rered, stablished & preserved) and in other Sciences, eyther by diligent serche and travaile (for so short a tyme) almost incredible, Such Men, and such bokes are com[m]e to my knowledge, where they are. As, to the former great sciences I hoped never to have had so good ayde, eyther by the one or the other.”  

15 Dee to Cecil, 16 February 1563: “mysyng Cummyng ... by diligent serche and travaile (for so short a tyme) who hath promised me leave therto, after he shall perceyve that I may remayne by him longer (with the leave of my prince) to pleasure him also with such points of Science as at my hands he requireth.”  

16 Dee to Cecil, 16 February 1563. On Trithemius and his importance for sixteenth-century occult philosophy see Noel L. Brann, *Trithemius and Magical theology: A Chapter in the Controversy over Occult Studies in Early Modern Europe* (Albany: State University of New York Press, 1999). For copies of Trithemius’s works owned by Dee see Julian Roberts and Andrew G. Watson, John Dee’s Library Catalogue (London: The Bibliographical Society, 1990), items 218, 286, 359, 622, 646, 678, 897, 969, 1884, and DM 165. Roberts and Watson note that the copy Dee made of the *Steganographia* has not thus far been located (see 183).  

17 Dee to Cecil, 16 February 1563.  


vulnerably known as Den Camer Straet.\textsuperscript{21} That is to say, Dee was living at the house of the printer, where (it seems) he both wrote and oversaw the printing of the \textit{Monas Hieroglyphica}, as can be seen from his dedicatory epistle to Silvius dated 30 January 1564, one day after his lengthy dedicatory epistle to Maximilian. This letter to Silvius is signed “from our study in Antwerp” (\textit{Ex Musaeo nostro Antwerpiensi}). Silvius is addressed by Dee as “his singular friend” (\textit{Amico suo singulari}).\textsuperscript{22}

Silvius was a relative newcomer to the Antwerp printing scene, but had swiftly (and some say dishonestly) risen to the prestigious post of “Royal Typographer” (\textit{Regius Typographus}) as is indicated on both the title page and the colophon of the work.\textsuperscript{23} According to the print historian Paul Blouw, Silvius had obtained his printer’s licence in May 1558 and printed the first works under his own name in 1560.\textsuperscript{24} By 1564, thanks to the compulsory (albeit temporary) liquidation of Christoph Plantin’s officina in 1562 (which provided Silvius with much of his stock of types),\textsuperscript{25} Silvius’s business was flourishing. Amongst some of the first publications to make his name was a collection of Antwerp pageant plays, the \textit{Spelen van Sinne} (published in 1562), which was, according to Colin Clair and Paul Blouw, “notable for its excellent execution and its illustrations,”\textsuperscript{26} a “spectacular book with fine woodcuts” including the blazons of civic bodies and allegorical representations taken from the plays.\textsuperscript{27} Also in 1562, Silvius published his own Flemish translation of Claude Paradin’s \textit{Devises héroiques}, which was adorned with 217 woodcuts.\textsuperscript{28} The year 1562, according to Clair, was the year which “really saw the blossoming of Silvius’s establishment,”\textsuperscript{29} so by the time that Dee arrived in Antwerp he was an obvious choice: a man of letters with a flourishing printing business, who was renowned for his typographic design and his expertise in illustration. This was just the man to undertake the engraving of the \textit{Monas} with its many unusual diagrams, its elaborate symbolic frontispiece and final device.

But there were other reasons perhaps for Dee’s choice of printer and why he was living in his house in 1563-4. Like Dee, Silvius had been at the University of Louvain in the 1540s; Dee as a Masters student and Silvius as a writing master to the sons of the Prince of Orange.\textsuperscript{30} It seems probable that Silvius has become Dee’s “singular friend” during the English mathematician’s influential period of study in the Low Countries, and given the emphasis on the mystical significance of various alphabetic systems in the \textit{Monas}, it is worth noting that Silvius published a number of alphabetic works during his career as a printer – some of them relating to his work as a calligrapher and some of them being works of anti-Catholic religious polemic.\textsuperscript{31}

It is fitting that Dee should have returned to the Low Countries where – according to his own testimony – he first developed his interest in the study of celestial influences and their connection to “inferior astronomy” (i.e., alchemy) in order to publish the doctrines that he merely hinted at in the

\begin{itemize}
\item \textsuperscript{21} TNA, SPD 12/27, item 63: “Antwerpiae apud Guilielmum Siluium In Angelo aureo: in platea, vulgariter, Den Camer Straet, vocata.”
\item \textsuperscript{22} Dee, \textit{Monas Hieroglyphica}, 10v-11v.
\item \textsuperscript{24} Blouw, “Silvius’s Remarkable Start,” 170.
\item \textsuperscript{25} Blouw, “Silvius’s Remarkable Start,” 194. Plantin’s shop reopened in September 1563 ( Blouw, “Silvius’s Remarkable Start,” 198).
\item \textsuperscript{26} Clair, “Willem Silvius,” 194.
\item \textsuperscript{27} Blouw, “Silvius’s Remarkable Start,” 186.
\item \textsuperscript{28} Clair, “Willem Silvius,” 193. The title of Silvius’s translation was \textit{Princelijke Devijsen ofte wapenen van M. Claude Paradyyn} (Antwerp, 1562).
\item \textsuperscript{29} Clair, “Willem Silvius,” 193.
\item \textsuperscript{30} Clair, “Willem Silvius,” 196.
\item \textsuperscript{31} Clair, “Willem Silvius,” 194-6. In the same year that he published the \textit{Monas}, Silvius published \textit{Eetien gheestelyckhen A. B. C. gheotoohen uit den Psalmten van David}, a work which was later placed on the Index of Prohibited books (Clair, “Willem Silvius,” 196)
\end{itemize}
fifty-second aphorism of the Propaedeumata where he alludes to a secret of alchemy “enclosed in a certain Monad and taken from my theories.”32 Another European dimension is represented by Dee’s repeated references to “the Parisians” in the Monas.33 After Dee left the University of Louvain in 1550 he travelled through France, ending up in Paris where, according to his own account, he undertook “to rede, freely and publikly, Euclides Elements geometrical, Mathematice Physice et pythagorice: (a thing never done publikly in any vniverse of Christendome).”34 Given the Pythagorean complexities of the Monas Hieroglyphica (filtered through his reading of Johannes Trithemius’s letters to Joachim, Margrave of Brandenburg) and its occult re-reading of Euclidean propositions (which are “mathematically, magically, cabalistically and analogically explained”), it is clear that these Parisian lectures were a vital part of the gestation of the work which he composed in Silvius’s house in Antwerp.35

The dedication to Maximilian II of Habsburg

Some four months before returning to Antwerp to write and print the Monas, Dee was travelling: in April 1563 we know that he was in Zürich visiting Conrad Gesner,36 and by September of that year he was an “eye witness” to the coronation of Maximilian in Pressburg. It was presumably this encounter with the Hungarian court which led Dee to present his work to the newly-crowned monarch, “by grace of God the most wise King of the Romans, of Bohemia and of Hungary” (ad Maximilianum, Dei gratia Romanorum, Boiiemiae et Hungariae regem sapientissimum).37 The works of Robert J. Evans on Rudolf II,38 and Bruce T. Moran on Moritz of Hessen,39 have done much to explain the importance

32 John Dee, Propaedeumata, 148-9: “Et est Arcanum hoc, non minoris multo dignitatis, quam ipsa augfstissima philosophorum ASTRONOMIA, INFERIOR nuncupata: cuius Insignia, in quadam inclusa MONADE, ac ex nostris Theoris desumpta ....”
33 See, for example, Dee Monas Hieroglyphica, 7r: “in nostris ad Parisienses Aphonismis,” where he apparently coined the term “real cabala” (realis cabala). On the same page he mentions that he also addressed an etymological interpretation of the word Gamaea (talisman) “to the Parisians” (Parisiensibus). On 7v he also refers to a work addressed “to the Parisians” which was “their own monad” (sua MONADE peculiari), suggesting the existence of a manuscript work which was an intermediate stage of the work which would become the Monas Hieroglyphica. Josten, and others, have identified this with a lost manucript work entitled Cabcala Hebraicae compendiosa tabella which Dee dates to 1562, although given his sharp distinction between the Cabala of the Jews and his own “cabala of the real,” this seems unlikely. On Dee’s concept of a ‘real’ cabala see Clulee, John Dee’s Natural Philosophy, 83-4 and Jean-Marc Mandosio, ‘Beyond Pico della Mirandola: John Dee’s “formal numbers” and “real cabala”: Studies in History and Philosophy of Science 43 (2012) 489–497.
34 John Dee, “The Compendious Rehearsall of John Dee his Dutifull declaration and profe of the course of his Studies life … exhibited to her most gratious Mat” at Hampton Court, A[n]n[o] 1592 Novemb[er] 9,” British Library, MS Cotton Vitellius C. VII, fol. 1-13 (fol. 3v). Dee included amongst his list of his manuscript works, “Prolegomena et dictata Parisiensia in Euclidis Elementis Geometricum libru[m] primu[m] et secund[u]m et secundum[um] in collegio Rheimensi – 4° 1550.” (see fol. 8r).
37 Dee, Monas Hieroglyphica, title page.
and significance of alchemy and occult philosophy in Central European court circles in the late
sixteenth and seventeenth centuries, and Dee’s dedication of the Monas to Maximilian and the
rhetorical strategies of his dedicatory epistle and title-page confirm their emphasis on the ideological
function of occult clientele.

In Rudolf II and his World. A Study in Intellectual History, Robert Evans noted the importance of
alchemical patronage in the court of Maximilian’s son, where there were “significant representatives
of alchemy in its widest sense, and several of them lived as members of the Emperor’s permanent
establishment.”40 He attributes the success of such occult philosophy in the Rudolfine court to the fact
that it offered “an occult representation of the mystique of absolutism by divine right.”41 Evans traces
this intellectual patronage into the earlier Habsburg dynasty,42 and particularly to the “collection of
learned men” gathered by Maximilian II,43 which included Michael Toxites the editor of Paracelsus
and the astrologer Cyprian Leowicz.44 Bruce Moran, writing on the role of alchemy and occult
philosophy in the German court of Moritz of Hessen in Kassel, speaks of it as “a court mentality in
which alchemy, Paracelsian medicine, and magic served to describe a political ideal.”45 The
philosophia hermetica, Moran says, was an “official court philosophy” and this was “well understood
by those seeking social and intellectual legitimacy within court circles.”46 Moran sees the ideological
investment in occult philosophy as a response to the “dissolving and confused political and religious
context” of the time.47 It provided “a strong ideological basis from which to legitimise their own
separatist politics” against the authority of the “Catholic Imperium.”48 The promotion of alchemy by
Protestant German courts is seen as “an act of political desperation,” in contrast with the occult
patronage of the Habsburges which, he argues, “manifested power not desired, but already achieved,”
and so became “the most ideal sort of propaganda for the universality of traditional imperial
authority.”49

Dee’s overtures to the Habsburg princes (Maximilian II in 1564 and Rudolf II in 1584) bear out this
view: in both cases he addressed himself to the stable imperial authority of the monarchs and
sought to represent himself as a client concerned with the glorification, continuance and longevity of
their dynasty. On both occasions Dee’s approaches were coloured by apocalyptic pronouncements.50

Dee’s dedication of the Monas to Maximilian could well have been in imitation of one of the
earliest alchemical texts to reach Western readers, the Liber de compositione alchimiae, which was
purportedly an epistle of the alchemist Morienus written to the Persian king, Khalid.51 Not only does
he treat a great deal of material in his extensive dedicatory epistle to Maximilian (which takes up a
third of the printed book), but the King is constantly apostrophized throughout the text, as the
assumed recipient of the theorems. The address to the King begins with the title page which
announces its dedication to the “wisest King” (regem sapientissimam) in the title. This is paralleled by
the motto surrounding the representation of the hieroglyphic monad on an ornamental scroll where
Mercury (ΣΤΙΑΒΩΝ), whose traditional astrological and alchemical symbol forms the basis of the

1550-1750,” Patronage and Institutions: Science, Technology, and Medicine at the European Court, 1500-
40 Evans, Rudolf II, 203.
41 Evans, Rudolf II, 212.
42 Evans, Rudolf II, chap. 4, “The Habsburgs, Bohemia and Humanist Culture,” 116-61. See also Hugh Trevor-
Roper, Princes and Artists: Patronage and Ideology at four Habsburg Courts, 1517-1633 (London: Thames and
Hadson, 1976).
43 Evans, Rudolf II, 118-19.
44 Evans, Rudolf II, 209, n. 3 and 221.
45 Moran, Alchemical World, 8.
46 Moran, Alchemical World, 9.
49 Moran, “Patronage and Institutions,” 175. Cf. Moran, Alchemical World, 174 where he makes virtually the
same point.
50 See Parry, The Arch-Conjuror of England, 52, 152, Clulee, John Dee’s Natural Philosophy, 222-3 and
Deborah E. Harkness, John Dee’s Conversations with Angels: Cabal, Alchemy, and the End of Nature
(Cambridge: Cambridge University Press, 1999), 55.
51 See Julius Ruska, Arabische Alchemisten, 2 vols. (Heidelberg: C. Winter, 1924), vol. 1.
hieroglyph, is described as “the parent and the King of all planets” (omnia planetarum paren, et Rex). The dedication continues on the opening page of the dedication where the subtitle wishes Maximilian a “happy reign” (Imperium optat Foelissimium) and with the very conventional expatiation on his dedicatee’s virtues, of which, Dee says, he was an “eye witness” (oculatus ... Testis) at Pressburg.  Maximilian is figured by Dee as a privileged reader, one who “abounds in the knowledge of the greatest arts and of very secret matters” (qui Artium Maximarum, Rerumque Secretissimarum cognitione ... Abundas). Dee associates occult knowledge with political knowledge, as can be seen from what he calls a “hieroglyphic figure [or typus],” the “Tree of rarity” (Arbor raritatis), which depicts the “choice” (optio) confronting us at the threshold of adulthood. Dee speaks of adding something (appingemus) to the so-called Pythagorean letter. Dee adapts the traditional iconographical motif of the Pythagorean Y into a schema representing “mysteries” concerned both with philosophical knowledge and with “cosmopolitical theories,” and he urges Maximilian to give it his close attention. But what exactly does Dee mean by “cosmopolitical”?

In his General and Rare Memorials (published in 1576), Dee spoke of his involvement in “sundry affayres Philosophicall, and Cosmopoliticall, FOR VERITIE, IVSTICE, AND PEACE FVRDERING,” which involved a kind of political activity subordinated to the glory of God which “incomparably surpasseth all Humayn Policie: though the same be most carefully vsed, for matters tending greatly and chiefly to ... [God’s] Glorie, and Honor.” In reflecting on worldly government, Dee is led to think of himself as a “Cosmopolites A Citizen, and Member, of the whole and only one Mystical City Vniuersall: And so, consequently, to meditate of the Cosmopolitical Gouernment therof, vnder the King Almighty.” Dee’s cosmopolitical thought then is part of an Augustinian tradition of political thought, which contrasts a worldly politics with a more spiritual one. In book fourteen of De civitate dei, Augustine describes the difference between the government of the two cities, earthly and heavenly:

We see then that the two cities were created by two kinds of love: the earthly city was created by self-love reaching the point of contempt for God, the Heavenly City by the love of God carried as far as contempt of self. In fact, the earthly city glories in itself, the Heavenly City glories in the Lord. The former looks for glory from men, the latter finds its highest glory in God, the witness of good conscience ... In the former the lust for domination lards itself over princes as over the nations it subjugates; in the other both those put in authority and those subject to them serve one another in love ...

The two paths to be taken by man are towards tyranny and spirituality respectively, one branch (dominated by the element of earth) leading to the “tyrannical” (τορπανος) and the other (governed by the element of water, leading upwards towards the heavenly fire) to the “spiritual” (πνευματικος). Dee presents life as a series of “Pythagorean” critical years based on multiples of seven, with the moment of decision being the product of what Dee would call the quaternary and the septernary

52 Dee, Monas Hieroglyphica, 2r.
53 Dee, Monas Hieroglyphica, 5r. Josten’s translation slightly altered.
54 Dee, Monas Hieroglyphica, 5r. “HIEROGLYPHICVM Typum, ad Pythagoricam (dictam) appingemus literam.” On the ‘Arbor Raritatis’ see Clulee, John Dee’s Natural Philosophy, 81-2.
55 Dee, Monas Hieroglyphica, 5r.
58 Dee, General and Rare Memorials, 52-3.
59 Dee, General and Rare Memorials, 54.
61 Cf. Dee, Monas Hieroglyphica, 6v, where Dee claims that the Monas teaches how to “raise the element of earth through [the region of] water into [that of] fire” (Terrae Elementum, Sursum, in Ignem, per Aquam ... examinlare possit).
(seven multiplied by four equals twenty-eight). After twenty-eight, the uneasy mind (sollicitudo) of the budding tyrant leads to deceit (fraus) and finally to force (vis) and the hellish “Abyssus” of the worldly. Sollicitudo and fraus had been identified by mediaeval thinkers as parts of imprudence (the vice corresponding to the political virtue of prudence). Scotists, for example, saw sollicitudo as “an excessive care on the part of the intellect to seek out, and provide the means to acquire or conserve worldly things.” Even though one’s intentions might be honest they tended to “distract the mind from the cure of spiritual goods and our eternal salvation.” Fraus on the other hand is defined as “that intellectual device by which the intellect thinks, considers, and judges the means to deceive another.”

On the other side of Dee’s diagram, the path of the spiritual man leads him to become first a lover of wisdom (φιλοσοφος) and then a wise man (σοφος) before he finally attains the level of the “adept” (adeptius). The adept is a rare creature, “a unique and fortunate specimen” who is “one in a million of honest philosophers and ... one in a thousand millions of men of the honest sort.” Dee leaves Maximilian to rank his own doctrines on this scale, but it is clear from his references to adeptship elsewhere in the work that this is where he considers his rightful place to be. The key to understanding Dee’s reference to the “pneumatikos” is, I think, the New Testament, and especially the Pauline epistles where the “spiritual” (pneumatikos) is contrasted with the “carnal” (sarkikos). In Galatians 6:1 Paul addresses his Christian congregation as “ye which are spiritual” (hoi pneumatikoi).

Given the avowedly “cosmopolitical” nature of the diagram, however, it should also perhaps be read as a political choice, as well as a spiritual one. Like Plato’s guardians in the Republic, who should be “godlike in so far as that is possible for humanity” (Republic, 383 C), Dee seems to be suggesting that wise rulers should be spiritual and philosophical beings. Thus Dee also seems to be implying that Maximilian is a “spiritual” sovereign whose knowledge of “secret matters” is a guarantee of his political legitimacy. The purveyor of mysteries and his patron are thus figured together as part of a spiritual elite, far above the “common sort.” Dee’s work constantly flatters Maximilian by figuring him as one of the very few capable of understanding the work. Thus, for example, when discussing the mystical significance of alphabetic figures he says, “You, O famous King of the Romans, will not be astonished at my now mentioning in passing that the science of the alphabet contains great mysteries.” As a monarch who is “famous by the honour of a three-fold crown” and a “singular ornament among Kings,” Maximilian is elevated as a judge of the rarity of his “theoretical gift” (de Raritate nostri huisce Muneris Theoretici).

Maximilian is, Dee says, the ideal witness of the piety of his “lofty mysteries”:

63 Diego González Mateo, Theologica Scotia in Tertium Sententiarum Magistri... Tomus Quintus (Logroño, 1764), 88: “Sollicitudo ... est ... excessiva cura ex parte intellectus inquirendi, atque providendi media ad acquendam, vel conservandam temporalia, etiamsi honesta sit. Hac enim Sollicitudo distrahit mentem à cura bonorum spiritualium, & aeterna salutis.”
64 Ibid: “Est ergo fraus, dolus intellectualis ... qua intellectus cogitate, consulti, ac judicat de mediis ad laterum decipiendum.”
65 Dee, Monas Hieroglyphica, 5r.
66 For the Platonic sources of Dee’s concept of the adeptius see his annotations concerning “mens adepta” in his copy of Plotini Divini illius Platonica familia philosophi, de rebus philosophicis libri IIIII. in enneadis sex distributi, a Marsilio Ficino Florentino e Graeca lingua in latinam versi, et ab eodem doctissimis commentarjis illustrati (Apud Salingiacum IOANNES SOTER excudebat. Anno M.D.XL), xxii recto and xxvi verso (containing Ficino’s commentaries to Enneads, I.4. and I.5). Dee’s copy is located in London, Royal College of Physicians Library, Copy number 10704: Dorchester number D 124/5. On Dee’s notion of mens adepta, see Häkan Håkansson, Seeing the World: John Dee and Renaissance Occultism (Lund: Lunds Universiteit, 2001), 234-5.
69 Dee, Monas Hieroglyphica, 4v.
70 Dee, Monas Hieroglyphica, 8r. Josten’s translation slightly adapted.
Only he who possesses a very full insight into [these mysteries] ... can clearly distinguish [them] ... in this matter nobody could adduce a witness of sharper judgement, more experienced by practice, or more powerful authority, or of more faithful sincerity, than him whom the Very High and Almighty King of Kings has made King Maximilian.\footnote{Dee, \textit{Monas Hieroglyphica}, 8v.}

In the theoretical section of the work, he makes much of revealing to the King (and, of course, all his readers) the cabalistic knowledge of the “more secret vessels” (\textit{secretiora ... vasa}) of the “holy art,” which “may be revealed only to initiates.”\footnote{Dee, \textit{Monas Hieroglyphica}, 22r.}

In Theorem XXIII where he presents the “peculiar and mystical division and computation” (\textit{peculiarem, Mysticamque ... partitionem, & rationem}) of the Pythagorean quaternary, Dee touches upon a combinatorial rule he has devised for the calculation of the greatest number of permutations of a given sequence of numbers (\textit{Noster Metatheseos Canon}). He breaks off from his exposition to commend this technique (which he uses for cabalistic purposes) to the King as an “operation ... most useful in every investigation of Nature and in other affairs of the polity.”\footnote{Dee, \textit{Monas Hieroglyphica}, 25v: “Hanc ... operationem, tibi (O REX) plurimum Commendo: tum in omni Natura examinatione, tum in alijs Reipublicae Negotiis utillissima[m].”}

Once again Dee represents his doctrines as politically useful as well as fraught with mystical significance.

Not content with flattering the King as an initiate of alchemical and cabalistic secrets, Dee also incorporated the Habsburg dynasty into the work’s apocalyptic scheme. In the midst of an obscure interpretation of the lines of the cross in the hieroglyphic monad considered as a “quaternary,” which Dee interprets as a secret concerning the “realm of the four elements” (\textit{QUATUOR ELEMENTORUM REGNO}), he also hints at a spiritual significance (perhaps connected to the soul’s casting off of the elemental world):

\begin{quote}
O thrice and four times blessed are those who can reach that (as it were copulative) point of the ternary, and who can leave it to the prince of darkness. Thus we shall attain to the snow-white clarity and to the ornaments of the white garments, O Maximilian, whom God, to the honour of His tremendous name, in times to come may render very great (by this interpretation of mysteries, or [else] some [other] member of the house of Austria), (while I may be sleeping in Christ) in that abominable, nay, intolerable, darkness (of the point which is superfluous on earth).
\end{quote}\footnote{Dee, \textit{Monas Hieroglyphica}, 19v.}

Josten, I think rightly, associates the “white garments” of this passage to the “white raiment” of the twenty-four elders in Revelation 4:4 (depicted as earthly Kings surrendering their crowns to Christ),\footnote{Josten, “A Translation,” 185, n. 87.} which Dee refers to explicitly in the final, (twenty-fourth) theorem of the book.\footnote{Dee, \textit{Monas Hieroglyphica}, 27v- 28r.} This prognostication seems to hint at a providential Habsburg destiny which would find fulfilment in the Last Days – an event which is tenuously connected to the “lofty mysteries” of the \textit{Monas} itself. We know from a surviving copy of one of Dee’s books that he was quite preoccupied with predictions concerning the house of Habsburg in 1564. In Dee’s copy of Cyprian Leowitz’s \textit{De coniunctionibus magnis insignioribus superiorum planeta rum, solis defectionibus et cometis, in quarta Monarchia, cum eorum effectuum historica expositione} (Lauingen, 1564), Cambridge University Library, shelfmark R*5 21 (E), inscribed “Ioannes Dee 1564.” See Evans, \textit{Rudolf II}, 221.

\begin{footnotesize}
\begin{itemize}
\item[71] Dee, \textit{Monas Hieroglyphica}, 8v.
\item[72] Dee, \textit{Monas Hieroglyphica}, 22r.
\item[73] Dee, \textit{Monas Hieroglyphica}, 25v: “Hanc ... operationem, tibi (O REX) plurimum Commendo: tum in omni Natura examinatione, tum in alijs Reipublicae Negotiis utillissima[m].”
\item[74] Dee, \textit{Monas Hieroglyphica}, 19v.
\item[75] Josten, “A Translation,” 185, n. 87.
\item[76] Dee, \textit{Monas Hieroglyphica}, 27v- 28r.
\item[77] Cyprian Leowitz, \textit{De coniunctionibus magnis insignioribus superiorum planetarum, solis defectionibus et cometis, in quarta Monarchia, cum eorum effectuum historica expositione} (Lauingen, 1564), Cambridge University Library, shelfmark R*5 21 (E), inscribed “Ioannes Dee 1564.” See Evans, \textit{Rudolf II}, 221.
\end{itemize}
\end{footnotesize}
Maximilian’s son Rudolf in his newly settled court in Prague – bringing with him a copy of the *Monas Hieroglyphica* to present to the Emperor.  

**Diagrammatic alchemy**

The close relationship between Dee and his printer arises, in part, out of the typographical character of Dee’s thought. What he wants from Silvius is *diligentia*, carefulness, in printing. What he fears is “the negligence of typography” (*Typographiae Negligentia*). He exhorts Silvius to “imitate ... my carefulness in [arranging] the variety of letters, the points, the lines, the diagrams, the schemata, the numbers and other things.” This is because – setting aside the title page – Dee’s work is profoundly *diagrammatic*. Dee is probably the first diagrammatic, rather than emblematic alchemist. His “mysteries” are diagrammatic mysteries. His preference for the schema and the diagram make him an author well-adapted to the print medium, although the typesetting difficulties of inserting diagrammatic components in the setter’s frame must have been considerable.

The use of the term ‘diagram’ to describe the visual presentation of information in the Early Modern period is not without its difficulties. Dee’s use of the terms *schema* and *diagramma* should – in part at least – be related to the use of these terms by the German humanist scholars Valentinus Erythraeus and Johannes Sturmius, who were joint Professors of Rhetoric at the Protestant Academy and Gymnasium at Strasbourg in the 1540s and 50s. Dee owned several works by both these authors, including editions of Erythraeus’s works published in the early 1560s. Erythraeus and Sturm used the terms ‘schema’ and ‘diagramma’ to refer to the bracketed tables of information more often associated with Petrus Ramus. Dee owned a 1560 edition of *ΣΧΗΜΑΤΙΣΜΟΙ, hoc est Tabulae quaedam partitionum oratoriarum M. T. Ciceronis* (Strasbourg, 1547) and a 1561 edition of *Epitome primi, et secundi libri dialecticarum partitionum Ioannis Sturmi Huic compendio additi sunt schematismi, seu diagrammata partitionum* (Strasbourg, 1555), where we can see that ‘schema’ or ‘schematismus’ are seen as equivalent to ‘diagramma’. Dee was certainly fond of this mode of presentation – as we can see in the famous ‘Groundplat’ of his *Mathematical Praeface* (1570). There are certainly bracketed tables of this kind in the *Monas* (most notably in the table of heat, weight and time on 26v), but he also uses these terms to describe other kinds of graphic presentation as well. The book contains a number of distinct types of diagram, such as cosmological diagrams, tabular grids, and the ‘brace’ diagrams often used in the teaching of logic and dialectics. It is worth taking a

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78 After Maximilian’s death in 1576, Rudolf shifted his governmental base from Vienna to Prague (the move took until 1583). Evans, *Rudolf II*, 22.
83 See Roberts and Watson, *John Dee’s Library Catalogue*, items 727, 1818, 1819 (for Erythraeus) and items 1005, 1187, 1818, 2092, B116, and B145 (for Sturmius).
86 See *Monas*, 17r and 18r.
87 See the ‘Garden of the Hesperides’ on 23r, or the ‘Monadic Anatomy of Inferior Astronomy’ on 14v.
88 See his presentations of the ‘Pythagorean’ and ‘Artificial’ quaternaries on 25v and 26r. On these kinds of diagrams see Cesare Vasoli, *La dialettica e la retorica dell’ Umanesimo: “Invenzione” e “Metodo” nella cultura del XV and XVI secolo* (Milan: Feltrinelli, 1968), 100-115.
further look at Dee’s terminology here. We have already discussed his use of the terms diagramma and the schema, but even more important perhaps are the various uses he makes of the term hieroglyph. The vogue for Egyptian hieroglyphs began with the rediscovery of Horapollo’s Ιερογλυφικά in 1419, but reached a peak in the mid-sixteenth century with the Hieroglyphica of Piero Valeriano (1477–1558). See Dee’s geometrically constructed hieroglyphic monad, however, is a far cry from the emblematic figures favoured by Valeriano, tending as it does to focus on the hieroglyph as a kind of secret writing, but also one with close affiliations to the traditional astrological (and alchemical) symbols for the planets and metals. Many of the diagrams contained in the Monas are concerned with permutations and variations of the Monas hieroglyph. But what are we to make of the arbor raritatis which he describes as a “Hieroglyphic Typus”? What is a typus exactly? In Classical Latin typus designated a bas relief, which sense could easily be applied to the process of printing and so designate any imprinted figure. But it also signified a builder’s plan. Is Dee’s image a plan? Another example of a typus can be found in an Antwerp work printed five years after Dee’s Monas, in Cornelius Gemma’s De arte cyclognomica printed by Christoph Plantin. Gemma uses a series of images which, as Martin Mulsow has shown, derived from his experience of globes in the instrument maker’s workshop. Gemma’s typus shows the metaphysical divisions of the cosmos, as well as providing memory places for the users of Gemma’s art. Like Dee, Gemma was a diagrammatic thinker, and his work bristles with tables and schemata. Was it this diagrammatic thinking that Dee had encountered in the print shops of Antwerp?

Anatomy also provides Dee with metaphors, so this diagram in Theorem XII is called a “Monadic anatomy of the whole of inferior astronomy,” which is to say the “golden work” of alchemy or the ars pyronomica. In Theorem XXI, however, we are presented with the “anatomical parts” of an inverted monad symbol, described as “a transposition [Localem Commutationem] of the mystical monad.” This theorem is very useful for seeing why Dee was so insistent on typographical diligence, as he believes that the mutation of the diagrams actually represents chymical mutations. He notes that in the diagram the substance represented by B, which “cannot be easily recognised by all” can be transformed into substance E by closing the two semicircles at the head of B into the circle at the head of E. The substances D and C represent gold and silver respectively, and are “well known forms” which are “separate and different from B.” This denotes that substances B and E are artificial forms (a “philosophical” form in alchemical terminology), and this essential difference is expressed by the geometrical proportions of the diagram. “Let us remember,” Dee says, “that the radius of these half circles [in B] is not equal to the radius of D and C (which are produced for us by nature and are well known to all), but much smaller, whence it is clear that B is not of such great bulk as D and C.” The properties of the diagram are therefore seen to be directly expressive of the properties of substances (in this case bulk). Dee calls these diagrammatic inferences “hieroglyphic syllogisms” (Hieroglyphicus

92 Dee, Monas Hieroglyphica, 14v.
93 Dee, Monas Hieroglyphica, 20v.
94 Dee, Monas Hieroglyphica, 21r.
... Syllogismis), and the manipulation of these “syllogisms” could be described as a diagrammatic logic.

In his study of ‘diagrammatic reasoning’ in early modern scientific texts James Franklin defines ‘diagrams’ as ‘pictures streamlined for inference by removal of irrelevancies’, or, more helpfully, as ‘a picture which is intended to perform inference about the thing pictured, by mentally following around the parts of the diagram.’ This concept would be very useful, I think, in understanding the structure of some of Dee’s diagrams, although it is isn’t always clear how the reader is meant to move through the diagram, and what kinds of ‘inference’ are involved. In the ‘monadic anatomy’ of the alchemical art in Theorem XIII (14v), we are guided through the tabular grid by a numbered sequence (the seven stages of the alchemical work), but in the ‘garden of the Hesperides’ in the ‘porism’ of Theorem XXII (23r) we can move through the grid vertically or horizontally, and the orientation of the diagram seems to be flipped round after the first three rows. Each horizontal column encourages the reader to make ‘inferences’ about the sequence of monadic parts (alpha, omega and cross, or ‘beginning’, ‘middle’ and ‘end’), so for example, we could read the first, third and fifth columns of the upper half of the diagram as referring to Christ, who exists ‘before the elements’, is subject to an elemental economy (in the incarnation) and will exist after the elements (i.e. after the dissolution of the elemental world in the Last Days). Christ has to be mortified on the cross (die) in order to live (vivificans), i.e. to be resurrected. He was born in the stable (Natus in Stabulo), becomes a sacrifice on the cross (Holocaustum in Cruce), and then becomes ‘King of Kings everywhere’ (Rex Regum Vbiqve). This finds parallels both in column two of the upper half of the diagram to the Adamic, the mortal and the glorious (i.e. resurrected body) of Man, and (in column two of the lower half of the diagram) in the alchemical process, where the material creation (Creatio hyles) must undergo an elemental purification (Depuratio Elementalis) in order to be transmuted (Transformatio). The movement of the mind through this diagram is thus complex, and involves a specific kind of inference – one which finds analogies between Christ’s passion, the human body, and the material creation. Franklin’s idea of diagrams as mentally following the parts of diagrams in the imagination is thus a useful tool for tackling the dynamic nature of Dee’s diagrams.

What other properties do Dee’s diagrams possess? The Monas Hieroglyphica itself was clearly conceived by Dee as something with talismanic properties, as he insists that “those wishing to bear it on rings and seals, or to use it in other ways” must take care to preserve the proportions of the printed symbol. But what about the four “geogamic [or ‘earth marrying’] figures” in Theorem XII? These four symbols, or the fifth one which can stand in their stead, are said to be introduced or impressed into a “very pure and simple earth.” Does this mean that the figures are literally impressed or imprinted? Or does this means that the substances represented by the symbols are mixed with the earth? The boundaries between typography and chymistry are blurred once again.

Finally the diagrams of the Monas are clearly designed for a kind of contemplation. Take the schema in Theorem XXIII which is sometimes called the “Horizon Aeternitatis.” Dee says that from this schema and the preceding Ramist diagram setting proportions of weights, times and degrees of heat, “many things can be elicited ... (if considered in a more inward manner) than it is proper to express openly in words.” What does it means to consider a diagram “in a more inward manner” (penitus)? One thing is certain, Dee clearly means us to read his diagrams syllogistically, and elements from the different diagrams need to be read across in order to supply additional meanings. For example, if we look at this section of the “Horizon Aeternitatis” against the “Arbor raritatis” we can see that they both display tenfold proportional progressions (which Dee says in the “Horizon” is an “enigma of the ancients”) and associate this with the movement from earth, through water and air to fire, the most refined of the elements. The metamorphic consummation promised in the “Horizon” could well be the spiritual elevation of the adept promised in the “Arbor,” but if we look at the diagram of the degrees of heat, weights, and times on the page before the “Arbor” we can see the four

95 Dee, Monas Hieroglyphica, 21r-v.
97 Dee, Monas Hieroglyphica, 27r.
grades and the tenfold proportions occurring in the context of alchemical processes and the wisdom of Nature.

In a recent conference paper on early modern diagrams, Stephen Petrina, Yu-ling Lee and Franc Feng have suggested that diagrams were an important component of the “newfound collaboration between scholars and typesetters in the late fifteenth and sixteenth centuries.” I certainly think that this is the case with Dee and Silvius. The Monas, in so far as it is an innovative typographical work relied heavily on the collaboration between author and printer, and Dee himself emphasised Silvius’s importance in the enterprise. Their collaboration on the diagrams was particularly important because the diagrams were not simply illustrations or adornments, but an integral part of Dee’s alchemical thinking. In order to elucidate Dee’s conception of the alchemical process in the Monas Hieroglyphica it is necessary to examine both the internal dynamics of his schemas and diagrams, and the relationship between diagrams. How were Dee’s readers supposed to navigate their way round these diagrams? What kinds of mental picturing or mental reasoning are implied by their graphic dispositions? What does he mean by ‘hieroglyphic syllogisms’? A further understanding of the Monas’s four hundred and fifty year old enigmas may require that we pay closer attention to its diagrammatic logic.

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