

## AN INTERPRETATION OF THE *FAMA FRATERNITATIS* WITH RESPECT TO DEE'S *MONAS HIEROGLYPHICA*

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IN 1614 a strange German text proclaimed the founding of a secret brotherhood dedicated to religious and intellectual reform. "Finally man might thereby understand his own nobleness and worth, and why he is called Microcosmos, and how far his knowledge extendeth into Nature".<sup>1</sup> Thus emerged the Rosicrucian fraternity, whose existence has long been the subject of historical and occult debate.<sup>2</sup> The initial text, the *Fama Fraternitatis*, provided a biographical account of Christian Rosencreutz, mythical founder of the fraternity; it was succeeded in the following year by the *Confessio*, essentially a reiteration of the reality and spiritual significance of the brotherhood's work.<sup>3</sup> The neo-Paracelsian character of these manifestoes has been recognized,<sup>4</sup> but their content has not been deeply explored. Yet strong claims have been made about that content. The text first bound with the later *Confessio* adopts Dee's epigram from the *Monas Hieroglyphica* and quotes from the book; because of this, and because Dee travelled upon the continent, F. A. Yates asserts that Dee's hermetic-cabalistic magic is the "more secret philosophy" which lies behind the enigmatic manifestoes.<sup>5</sup> She makes "the strangely exciting suggestion" that "the Rosicrucian movement in Germany was the delayed result of Dee's mission in Bohemia over twenty years earlier, influences from which became associated with the Elector Palatine".<sup>6</sup>

Yates' study of the "Rosicrucian Enlightenment" relies heavily upon circumstantial evidence, and her claim that the *Fama* rests upon Dee's philosophy—a claim central to the argument—seems particularly unfounded.<sup>7</sup> But her incipient insight is in fact supported by the texts. Though she pays scant attention to the complex symbolism within the *Fama*, its alchemical and numerical elements indeed imply such a borrowing. An analysis of this first Rosicrucian manifesto suggests that the call for reform is modelled upon the alchemical structure of Dee's *Monas* to create an allegory wherein Christian Rosencreutz is primal material and magus, his vault an alchemical vessel, and his brotherhood both alchemical substance and mercurial agent by which the stone is matured; tested and its influence spread. This essay explores such a possibility and briefly discusses its significance.

The *Fama* opens with the claim that through the benevolence of God, "we" have been shown the hidden half of the world. God "hath raised men, imbued with great wisdom, who might properly renew and reduce all arts (in this age spotted and imperfect) to perfection".<sup>8</sup> Thus can man come to know his own nobleness and worth. This will be the message of the *Fama*: there are men who may be the alchemists of human knowledge, who may through their understanding render man in harmony with nature and through this harmony enable man's comprehension of his being and his world. Shortly thereafter follows the remark that "as in every kernel is contained a whole good fruit or tree, so likewise is included in the little body of man the whole great world".<sup>9</sup> Only that which is common to all men and all nature is good:

That which is disagreeing with them is error, falsehood . . . might one examine all and several persons upon the earth, he should find that which is good and right, is

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always agreeing with itself; but all the rest is spotted with a thousand erroneous conceits.<sup>10</sup>

The alchemist “renews and reduces” by purging dross substance of its impurities; it is the common core which contains and reflects the totality of the universe. The remark is echoed in the *Monas*,<sup>11</sup> but it is a conception common in the Renaissance: the route to spiritual purity is also the route to earthly knowledge, and through his inner essence man may come to know the outer world. The *Fama* announces that the time for this true learning has now arisen, and may be achieved by the binding together of men in the common pursuit of knowledge.

In the *Monas Hieroglyphica* (1564) Dee presents a cosmic, magical symbol which he finds of great profundity. The sun and moon are interlocked and set atop the cross of the elements to which is appended the sign of Aries: it is the astrological sign for Mercury, with a pointed hook. From this symbol, claims Dee, one can derive the signs of all the planets and the Pythagorean, hermetic mystery of the alchemical process. With the aid of fire the “external bodies [of the planets and the zodiac] have been reduced or restored to their mystical proportions” by the alchemical Mercury, “rebuilder and restorer of all astronomy.”<sup>12</sup>

To Dee the mystical geometry of the enigmatic symbol reveals many mysteries. In particular, “by the square mystery of this hieroglyphic monad something circular and altogether even[ly round] is being conveyed.”<sup>13</sup> The geometer will feel embarrassed at the insufficiency of his art: in Dee’s mystical alchemy, the unity of the round monad arises from the separation and reconciliation of the four elements of air, fire, earth and water. The nature of this complex process is further revealed in a central passage which may have provided a model structure for the *Fama*.

I know well (O King) [the book is dedicated to Maximillian II] that you will not shrink away in horror if I dare proffer this magic parable in your royal presence. This our hieroglyphic monad possesses, hidden away in its innermost center, a terrestrial body. It [*sc.* the monad] teaches without words, by what divine force that [terrestrial body] should be actuated. When it has been actuated, it [*sc.* the terrestrial centre of the monad] is to be reunited (in a perpetual marriage) to a generative influence which is lunar and solar, even if previously, in heaven or elsewhere, they [*sc.* the lunar and solar influences] were widely separated from that [terrestrial] body [at the centre of the monad]. When this *Gamaaea* has (by God’s will) been concluded (which [word: *Gamaaea*] to the Parisians I have interpreted as . . . the earth of marriage, or as the terrestrial sign of a union performed in the realm of [astral] influences), the monad can no longer be fed or watered on its native soil until the fourth, great and truly metaphysical revolution be completed. When that advance has been made he who fed [the monad] will first himself go away into a metamorphosis and will afterwards very rarely be held by the mortal eye. This, O very good King, is the true invisibility of the *magi* which has so often (and without sin) been spoken of, and which (as all future *magi* will own) has been granted to the theories of our monad.<sup>14</sup>

So Dee’s account of his symbol is itself a “parable”, and this parable explains that a terrestrial body must be activated and altered by a divine force, and united to a generative force which is itself a union of the solar and lunar influences. When such a marriage has been made, the hieroglyphic product must be removed and separated from the mundane world. Upon the “fourth, great and truly metaphysical” revolution, the monad itself will return, but the magus will be transformed into invisibility—an invisibility not only condoned but a necessary consequence of his alchemical transformations.

The *Confessio* also refers to “parables”: “we speak unto you by parables, but would willingly bring you to the right, simple, easy and ingenuous expositions, understanding, declaration and knowledge of all secrets”.<sup>15</sup> Yates makes much of the fact that Johann Valentin Andreae, author of *The Chemical Wedding of Christian Rosencreutz* (1616), uses the word *ludibrium* to refer to the Rosicrucian movement.<sup>16</sup> She suggests that while the word implied “fiction”, or “comedy”, Andreae probably considered it to also have a moral, educative influence. Such “parables” might then be thought to have serious import. Clearly Dee himself thought very highly of the “great rarity and remarkable quality” of the parable he presented to Maximillian II.<sup>17</sup>

The *Fama* may be a parable in the same manner; it seems to be allegorically based on the structure of Dee’s monad. The story of Christian Rosencreutz falls into three distinctive phases: the development of Rosencreutz’ own life, the development of the first stage of the fraternity, and the maturing activity of the fraternity while the body of Christian Rosencreutz lies hidden. The discovery of the tomb heralds the fourth phase, and the breaking of the “new dawn” over Europe. Thus there is a structural similarity to Dee’s program. In addition, the Rosicrucian brotherhood as it is announced at the *Fama*’s end is an invisible fraternity, one which is omniscient and ever-present but necessarily unseen. The brotherhood is secretive, but aware of all opinion; their building has almost been seen by thousands but shall be forever hidden.<sup>18</sup> There is no historical evidence that such a fraternity ever in fact existed. Dee’s parable provides the historical, literary precedent through which we can understand the alchemical allegory of invisible magi through which the world will be transformed.

For Dee the divine force which activates the terrestrial body is that of fire, the “pointed hook” of the monad which represents Aries, first of the three fire signs within the zodiac. “From this place in the heavens the beginning of the fiery triplicity is counted”.<sup>19</sup> Dee capitalizes the significant tenth of his twenty-four theorems. “The sun and the moon of this monad desire their elements, in which the denarian proportion will be strong, to be separated, and that this be done with the aid of fire”.<sup>20</sup> His text is essentially a lengthy explanation of this theorem by means of astrological and numerical symbolism. Below, we explore the three stages of the *Fama* as progressive alchemical transformations informed by such Pythagorean, hermetic concerns.

Born in poverty, though descended of noble parents, Christian Rosencreutz was placed in a cloister at five. He was an indifferent student in the classics, and desired to go to the Holy Land. But though he left for Jerusalem he never arrived. Instead, he went to Arabia, where his skills as a physician were noted, and at sixteen arrived in Damascus, where he learnt mathematics and physics. He left after three years and went to Egypt and thence to Féz, where he met the “Elementary Inhabitants” who taught him an impure magic which he used in a “wiser” fashion. After two years (five years, then, have been itemized) he went to Spain, where he tried to teach and was scorned. Nevertheless he had acquired “new *Axiomata*, whereby all things might be fully restored”.<sup>21</sup> And their scorn disappointed him, for his knowledge was good, and he had hoped for “a society in Europe, which might have gold, silver and precious stones sufficient to bestow on kings”: an alchemical society, worthily in possession of the philosopher’s stone. The narrator pauses to remark:

Verily we must confess that the world in those days was already big with those great commotions, labouring to be delivered of them; and did bring forth painful, worthy

men, who broke with all force through darkness and barbarism, and left us who succeeded to follow them: and assuredly they have been the uppermost point *in trigono igneo*, whose flame now should be more and more bright, and shall undoubtedly give to the world the last light.<sup>22</sup>

Such a one, says the narrator, was Paracelsus.

The narrator takes up again the thread of the story. Christian Rosencreutz returned to Germany, where "he built a fitting and neat habitation, in which he ruminated his voyage and philosophy, and reduced them together in a true memorial".<sup>23</sup> After five years, he wished for reformation, and the brotherhood was founded.

The "fitting and neat habitation" in which Rosencreutz' ruminations and philosophies are collected and "reduced" seems an alchemical vessel; his voyage appears almost as the collection of the elements from which the primary substance will be formed, in reference to the intellectual source of the magical philosophy behind the transformation. From Arabia came mathematics and early alchemy, from Egypt—supposed home of Hermes Trismegistus—came magic, from Spain the cabala which became the basis of Pico's angelic invocations. Perhaps like the Christian cabalists Rosencreutz set out for the Holy Land and was redirected to the possibilities of earthly purity through the learning of these apparently foreign manuscripts. Fez has no immediately obvious significance to magical philosophy; however, the narrator here refers to converse with Elementary Inhabitants. Perhaps the narration is allegorically depicting Rosencreutz as composed, in a variety of manners, of the different ancient elements. Born of noble parents, Rosencreutz is now poverty stricken, "impure" and earthly—ideal substance for the lead from which philosophic gold will emerge. He visits four different countries, he learns from the Elementary Inhabitants of a land thought less cultivated, more exotic, than the European, and he intellectually acquires the basic, "elemental" components of his alchemical trade: mathematics, hermetic magic, cabala. Both by acquiring the basic constituents of hermetic-cabalistic philosophy and in being himself an impure man associated with elements not purified, Rosencreutz allegorically resembles the basic matter of the alchemical process.

If intellectual equipment may form the elemental basis of the alchemical operation, learned men, who have synthesized and restructured the rough knowledge that has come to them from other lands, may become the fire to alter the understanding of other men. The narrator refers to worthy men, like Paracelsus, who have been the "uppermost point *in trigono igneo*". This seems a clear reference to the pointed hook which Dee has given Mercury. The hook represents Aries as the first of the three zodiacal fire signs, and alludes to the use of fire in the alchemical process. The rough, impure knowledge must be acquired, but also transformed. The world would not accept Rosencreutz as he was. He must purify himself, and through this purification his followers can use his knowledge and inspiration to reform the world.

To return to the story. Having built his fitting habitation in Germany, after five years Rosencreutz invited three men from his cloister to join him in fraternity. They made and used a magical language, and like Paracelsus healed the sick. But finding their task heavy, they increased their numbers to eight. When the eight were instructed and able to dispense their rarefied philosophy, they dispersed, five travelling over the surface of the globe but leaving a trinity behind. They obeyed six laws: 1. to heal the sick *gratis* 2. to mingle with the country of their habitation 3. to gather together once each year 4. to find worthy successors 5. to keep C.R. as their seal, mark and characteristic and 6. to keep the fraternity secret for a

hundred years. After a time they began to die. The first died in England; his book H showed him much learned of the cabala. And the narration breaks for commentary:

Also we do promise more gold than both the Indies bring to the King of Spain; for Europe is with child and will bring forth a strong child, who stands in need of a great godfather's gift.<sup>24</sup>

Again we are told that this is an alchemical enterprise, but one with political implications based on the transformation of modern men. It now becomes clear that the narrator is in the third generation of the fraternity; he is the second successor to one of the original eight. One hundred and twenty years have passed since the grave of Christian Rosencreutz was prepared.

In Dee's *Monas* much is made of the various permutations of the cross which symbolizes the ancient elements. The monad comprises the union of the sun and moon about a terrestrial centre, the symbol of the elements, and the sign for fire. The symbolism of the cross is discussed at length. Central to Dee's understanding is that the cross is both ternary and quaternary. The ternary—"body, soul and spirit"—consists in two straight lines and a point; the quaternary of the elements comprises four straight lines with their angles. And in this construction of the quaternary the octonary "offers itself in a most secret manner", for in the creating of the angles each line is twice repeated.<sup>25</sup> In the cross lies the secret mystery of the elements, for "the elements, removed outside their natural habitations, return to them along straight lines".<sup>26</sup> Previously it was suggested that Rosencreutz himself in the course of his travels had collected the elements of knowledge which would be the basis of his transformation into the philosopher's stone. As Rosencreutz constitutes a unit of change, so too does the brotherhood. The expansion of the brotherhood from four to eight is but a more secret affirmation of their allegorical status as basic elements in a collective alchemical operation.

To Dee the denary is a more profound consideration of the quaternary, for it is the sum of one, two, three and four. (Dee does not discuss duality, but as he repeatedly describes the union of opposites his interest in duality may be assumed.) The capitalized theorem ten stresses the "denarian proportion" of the elements of the sun and moon. Dee finds it significant that as the Latin "X" the denary is composed of two Latin fives ("V"). Five is the number of the planets (without sun or moon), each or whose signs are revealed within the monad. Dee would likely have found it significant that five was the alchemical quintessence, the fifth element of spirit which was separated from the mundane four. He may also have considered five to be the most secret significator of the sum of quaternary and ternary, for the Christian ternary reduced to one. Five and six were significant numbers because they "returned to themselves": the last digit of their powers is always five or six respectively.<sup>27</sup>

Certainly to the author of the *Fama* the number five was portentous. Rosencreutz is placed in a cloister at five, he spends at least five years in travel, he waits five years to create his brotherhood and after a time sends five abroad. Later, we shall see that he chooses his heptagonal tomb to have walls of five feet wide with a height of eight, both secret revelations of the quaternary, and that his successors joyfully announce that the *Fama* has been simultaneously published in five languages.<sup>28</sup>

Further consideration of the cross led Dee to the recognition that the two Latin fives are also, from another angle, fifties ("L"). "Oh my God, how great are these mysteries!"<sup>29</sup> Out of the cross grows the number one hundred. "Being thus uplifted by the proportions of the

cross, we have already learned from these theories of the cross to count, and to proceed [in counting] thus, One, Ten, One Hundred".<sup>30</sup> The number one hundred twenty would likewise have been significant, although it is not directly mentioned in the *Monas*: one hundred twenty is the product of the ternary, the quaternary, and the denary. In the *Propaudemata Aphoristica* (1568) Dee states that the planets (including sun and moon) can show one hundred twenty conjunctions, and he presents one hundred twenty theorems, the last of which appears to quote an unidentified Greek author of cosmic speculation. "Suitable divine things and their revolutions are sufficient to preserve the continuity of everything generated physically in the cosmos".<sup>31</sup> That Dee pays attention to the numbers of his theorems is clear, as the *Monas* has twenty four theorems ( $1 \times 2 \times 3 \times 4$ ) and the central thesis of the denary is announced in theorem ten. To Dee the numbers one hundred and one hundred twenty are of cosmic import.

The Rosicrucian fraternity must be secret for one hundred years; the body of Christian Rosencreutz lies hidden for one hundred and twenty. The tomb is revealed in 1604, the date perhaps chosen because in that year there was a mysterious and to an astrologer striking appearance of two new stars in the heavens. To Kepler, the new stars foretold political and religious transformations.<sup>32</sup> The tomb so revealed in this momentous year is replete with the symbolism of learning for a new and alchemically enlightened age.

As the narrator writes the fraternity has existed for three generations. We await the fourth cycle of brothers within the fraternity itself and the fourth stage of Rosencreutz' influence. It is now that the tomb is discovered. A brother has chosen to travel. To this end, curiously, he chooses to rebuild his house. "In such renewing" he found a memorial tablet of brass, and behind it, unexpectedly, a hidden door. "For like as our door was after so many years wonderfully discovered, also there shall be opened a door to Europe (when the wall is removed) which doth already begin to appear, and with great desire is expected by many".<sup>33</sup> The opportunity now arises; the time is ripe. Europeans, rings the clarion call, prepare yourself for the dawn of knowledge; roll back your wall of prejudice and awake.

The significant features of the burial vault behind the hidden door are that it has seven sides and corners, each side eight feet high and five broad. It is illuminated by a secret, artificial sun. Four religious sentiments, perhaps names of God, are enclosed within four circles on an altar in the centre of the room; upon it runs the Latin phrase, "this compendium of the universe I made in my life time to be my tomb". The ceiling and floor are divided into seven triangles, the walls into ten figures. Each wall contains and indicates a type of knowledge—the works of Paracelsus, a chest of mirrors, a collection of music. "If it should happen after many hundred years that the Order or Fraternity should come to nothing, they might by this only vault be restored again".<sup>34</sup>

Beneath the brass tablet the body of Christian Rosencreutz was whole and unconsumed, and he held in his hand a book whose final epitaph announced him to have "passed the century of years"<sup>35</sup> and have been hidden for one hundred and twenty. The inscription further said that he had collected the treasures of kings in his travels in Arabia and Africa, and constructed his vault to correspond to the microcosm, to be revealed when the times were right. This is the end of the story: the *Fama* continues to announce that the time of reformation is at hand, and that the alchemical philosophy as propounded herein (and not by the ungodly, whose gluttony yearns for gold) is a philosophy of spiritual enlightenment.

The symbolism seems to indicate that the discovered vault contains the philosopher's stone, now long matured, to transform the impure world. That the brother chose to

inaugurate his "journey" by "renewing" his house suggests the alchemical voyage which "reduced and renewed" its elemental contents. Rosencreutz collects and improves his elemental knowledge for a century and lies hidden for one hundred twenty years, numbers which Dee in particular has given an alchemical pedigree. The tomb now has the power of the philosopher's stone: it hermetically reflects the macrocosm, and it may restore a dissolute brotherhood to purity. This is particularly reinforced with reference to the *Monas*. When the fourth revolution to produce the stone is completed, "he who fed [the monad] will first himself go away into a metamorphosis", producing "the true invisibility of the magi". Rosencreutz is no longer an ordinary mortal: his flesh is not corruptible, and he and his fraternity are invisible to the impure world.

This philosopher's stone relies upon the accumulation of knowledge organized within a hermetic-cabalistic framework. Learning and instruments central to the magical tradition are evenly distributed around the walls. The walls themselves are five feet broad and eight high, perhaps an allusion to the numerical symbolism of the cross within the monad. They are covered with "ten figures, every one with their several figures and sentences"<sup>36</sup>; the figures suggest the ten cabalistic sephiroth which according to Pico, Agrippa and Dee spanned earth and heaven, so that mundane man could influence the angels. We are told that the ceiling represents the heavens, and the floor the earth. The altar contains four terms of God in circles—literally a squared circle, secret of the hieroglyphic monad. Floor and ceiling are divided into seven triangles, the seven of the seven plants, the sum of the quaternary and the ternary. And this "compendium of the universe" contains a secret and artificial sun.

As the largest and most powerful of the celestial orbs the sun occupies a primary position in the hermetic philosophy. Ficino approvingly noted that most Platonic philosophers worshipped the sun.

Julian and Iamblichus composed orations to the sun. Plato called the sun the visible offspring and image of the supreme God; Socrates, while greeting the rising sun, often fell into an ecstasy. The Pythagoreans sang to the lyre hymns to the rising sun, but undoubtedly "God has placed his tabernacle in the sun"<sup>37</sup>.

In the *Asclepius* the sun is called the "demiurge", the second God; it is the "visible god" quoted by Copernicus.<sup>38</sup> In the hermetic philosophy celestial life was born on air, and the sun was its chief transmitter.<sup>39</sup> The sun, then, has a semi-divine status and is also the most powerful means to contact celestial powers.

Dee shares the hermetic understanding of the sun's centrality, but he additionally discussed the alchemical creation of an artificial sun. A remarkable passage in the *Monas* describes the union of the sun and moon as producing an artificial sun. The pointed hook on the monad represents Aries, exaltation of the sun. If the monad is inverted, it then bears on its head two lunar crescents which share a common point. Two half circles connected—"as indeed they may be by art"<sup>40</sup>—render the sun. Thus the moon, impacted by the elements, may be the sun. Yet because this second sun is smaller than the original sign for the sun, the second sun is not "true" but artificial. The reader might interpret that such an artificial sun would then be the sign of the completed monad, for it might only be produced by the elements, moon and sun in perfect balance. Dee specifically praises this, his twenty-first theorem<sup>41</sup> and points out that the Roman numeral for ten is significant as the twenty-first ("the ternary, multiplying its strength by the septenary") letter of their alphabet.<sup>42</sup> An

earlier passage indicates again that a philosopher's sun is created through the alchemical process, the admixture of water and fire, moon and sun. Dee introduces the "famous Mercury of the philosophers" and says:

Yet some great experts put the Sun itself in his place and degree. In our current age we cannot perform this, unless we let this golden art be governed by a certain soul that has been separated from [its] body by the art of controlling the fire. The work is difficult and also very dangerous because of the fiery and sulphurous fumes which it occasions, but surely that soul will be able to work wonders, tying, no doubt, with bonds that cannot be loosed, Venus and indeed Mars to the disk of the moon (or at least to that of Mercury) and producing—in the third phase (as they will have it) to complete our septenary number—the Sun of the philosophers.<sup>43</sup>

Successful alchemical work, for Dee, produces an artificial sun in the "third phase", through the efforts of a soul separated from its body by the art of controlling fire. His alchemy is a spiritual alchemy, one aimed at the transformation of soul rather than the transmutation of metals.

The *Fama* is a cry for reformation which at the least seems influenced by, and may be modelled upon, the *Monas Hieroglyphica*. The *Monas* describes the union of solar and lunar influences which produce a philosopher's sun at the third "great and truly metaphysical" revolution; at the fourth such revolution, the magi responsible for the completed philosopher's stone of the monad become invisible. The vault of the *Fama* contains an uncorrupted body which has experienced three phases of alchemical transformation and is illuminated by an artificial sun, and it produces an invisible brotherhood to facilitate change on the eve of a supposed political, religious reformation in Europe. Both the *Monas* and the *Fama* deride the alchemists who practise their art in the gluttonous search for gold; both view man as the subject of the true alchemists' quest.<sup>44</sup>

It is likely that other texts than Dee's influenced the *Fama*; certainly some parallels seem suggestive.<sup>45</sup> However, the four-tiered transformational structure, the invisibility of the magi, and the numerical symbolism seem to derive from Dee. He is known to have travelled in Germany and to have influenced other Englishmen who travelled abroad. Philip Sidney visited Dee for consultation before his visit to Bohemia in 1577.<sup>46</sup> And in Bremen Dee was attended by Rosicrucian emblemist Khunrath, whose *Amphitheatre of Eternal Wisdom* bears the *Monas* sign and mentions Dee's work within the text.<sup>47</sup> We know relatively little of contemporary alchemical sources, but few place the same stress upon mnemonic symbolism, and, rather than a four-tier structure, they emphasize a twelve step process.<sup>48</sup> Dee's concern with "revolutions" rather than processes, and derivation of invisibility, set him apart from other alchemical writers and suggest his importance to the *Fama*.

Is such a dependency significant? Much of Yates' evidence in the Rosicrucian book remains circumstantial, though her claim for Dee's influence is augmented.<sup>49</sup> But the link between the *Fama* and the *Monas* casts a modest light into the darkened area wherein rages the controversy over the "Yates thesis". Yates held magical philosophy to be the precursor to the scientific revolution. "It is the Renaissance magus, I believe, who exemplifies that changed attitude of man to the cosmos which was the necessary preliminary to the use of science".<sup>50</sup> Vickers, by contrast, maintains the magical philosophy and scientific practice to be utterly distinct, and thus declares that "I find the Yates thesis almost wholly unfounded".<sup>51</sup> The use of Dee's works in the *Fama* tentatively supports what might be a



middle ground between the two. The late Renaissance hermetic-cabalistic philosophy presented man as able to alter and improve his world through his own resources, and in particular through knowledge acquired and applied. This approach to some extent would have supported, if it was not sufficient to engender, the interest in scientific understanding.

Dee's understanding of number is magical, not scientific, and his "experimental science" belongs to a far older mystical tradition.<sup>52</sup> But man may alter his world, to Dee, because he can manipulate the mathematical figures which to some extent describe it. "Things mathematical" are neither wholly celestial nor wholly mundane, but rather form a third category, "the mercurial fruit of dianoetical discourse".<sup>53</sup> The mathematical alchemist may use his imagination to ascend to spiritual heights. The *Fama* is not so mathematical as Dee's studies, but it uses numerical symbolism to indicate that man is the alchemist of his nature, and includes mathematics as a form of knowledge to be an element whose employment may lead to a reformed world. The *Fama* is not a scientific work and it indicates a form of thinking very far from scientific.<sup>54</sup> But informed by Dee's philosophy it probably supported the development of mathematical manipulation in the quest for man's improvement of his earthly world. In this intent, and in its general themes, the *Fama* supported the human striving for knowledge which would eventually result in the scientific revolution.

## NOTES

1. Reprinted in F. A. Yates, *The Rosicrucian Enlightenment*, London, 1982; pp. 282-96.
2. F. Leigh Gardner provides an early bibliography, *A Catalogue Raisonné of Works on the Occult*, London 1923.
3. Reprinted in Yates, *op. cit.*, pp. 296-306.
4. Allen G. Debus, *The Chemical Philosophy*, Vol. 1, New York, 1977, p. 213; also *Science and Education in the Seventeenth Century*, London, 1970, p. 20.
5. Yates, *op. cit.*, particularly pp. 66-68.
6. *Ibid.*, p. 69.
7. C. H. Josten, who translated Dee's *Monas Hieroglyphica*, attacks Yates on this point in his review of her book. Josten, review of *The Rosicrucian Enlightenment*, *Ambix*, **xx**, 1973, pp. 132-133.
8. Yates, *Op. cit.*, p. 282.
9. *Ibid.*, p. 284.
10. *Ibid.*, p. 285.
11. C. H. Josten, "A Translation of John Dee's 'Monas Hieroglyphica' (Antwerp 1564) with an Introduction and Annotations", *Ambix*, **xii**, 1964, p. 187.
12. Josten, *op. cit.*, pp. 121-123.
13. *Ibid.*, p. 129.
14. *Ibid.*, pp. 135-137. Translator's brackets.
15. Yates, *op. cit.*, p. 305.
16. *Ibid.*, pp. 80-81.
17. Josten, *op. cit.*, p. 115.
18. Yates, *op. cit.*, 296.
19. Josten, *op. cit.*, p. 161.
20. *Ibid.*, p. 161.
21. Yates, *op. cit.*, p. 285.
22. *Ibid.*, p. 286.
23. *Ibid.*, p. 286.
24. *Ibid.*, p. 289.

25. Josten, *op. cit.*, p. 157.
26. *Ibid.*, p. 159.
27. *Ibid.*, n. 54.
28. Yates, *op. cit.*, p. 296.
29. Josten, *op. cit.*, p. 171.
30. *Ibid.*, p. 173.
31. W. Shumaker, ed. and trans., *John Dee on Astronomy: Propaudeumata Aphoristica*, Berkely, 1978, p. 199.
32. Yates, *op. cit.*, 79n.
33. *Ibid.*, pp. 290-291.
34. *Ibid.*, p. 292.
35. *Ibid.*, p. 293n.
36. *Ibid.*, p. 291.
37. Quoted in D. P. Walker, *Spiritual and Demonic Magic*, London, 1958, p. 18.
38. The role of the sun in hermetic-cabalistic philosophy is discussed by Peter French in *John Dee*, London, 1972, pp. 98-103.
39. F. A. Yates, *The Art of Memory*, London, 1984, p. 151.
40. Josten, *op. cit.*, p. 191.
41. *Ibid.*, p. 137.
42. *Ibid.*, p. 159.
43. *Ibid.*, p. 165.
44. Josten discusses Dee's attitude to gold-seeking alchemists and concludes that "man, not metal, is the subject of alchemical transmutation, if rightly conceived". *Op. cit.*, p. 101. The sentiments are strongly echoed in the *Fama*. Yates, *op. cit.*, pp. 295-296.
45. The detail of the artificial sun and heptagonal vault in particular may have been suggested by Campanella's most famous work, the *Citta del Soli*, or *City of the Sun*. Campanella was an Italian hermetic-cabalistic philosopher, contemporary with Bruno. Campanella seems to have been historically connected with Rosicrucianism: "here the link seems certain". Certainly his disciples brought his unpublished manuscripts to Germany in 1611-13 and circulated them within a group to whom Andreae would have been connected. Yates, *Giordano Bruno and the Hermetic Tradition*, London, 1964, p. 413.  
 The *City of the Sun* presents a utopian vision of the ideal state. In the account the city is divided into seven concentric circles identified by seven planets. Four roads traversed the divisions, running from the compass directions into the center. There, upon the summit of a hill, there was a vast and marvelously constructed temple. It was perfectly round, its great dome supported on huge columns. The only objects upon the altar were great maps depicting all of heaven and of earth. The seven walls of the city recounted the sum of man's knowledge of nature: the different walls displayed mathematical figures, provincial customs, the science of stones and of the waters, of herbs and of celestial correspondances, of birds, reptiles, animals and inventions of science and law. The echoes in the vault of the *Fama* seem clear: a temple which represents the sun and carries within itself the maps of both earth and heaven, a whole of seven divisions which depicts the scientific knowledge of man and the natural world. Cf. D. P. Walker, *op. cit.*
46. French, *op. cit.*, p. 126.
47. Yates, *The Rosicrucian Enlightenment*, p. 67.
48. This would be true of Ripley, Valentine and Mylius. Paracelsus assumed a seven step process. John Read, *Prelude to Chemistry*, Cambridge, 1938; Debus, *The English Paracelsians*, London, 1965.
49. She makes such a claim in Yates, *op. cit.*, p. 265.
50. Yates, "The Hermetic Tradition in Renaissance Science", in Charles Singleton, ed., *Art, Science and History in the Renaissance*, Baltimore, 1967, p. 255.
51. Brian Vickers, ed., *Occult and Scientific mentalities in the Renaissance*, Cambridge, 1984, p. 6.
52. See the essay by N. H. Clulee. "At the Crossroads of Magic and Science: John Dee's Archemastrie", in Vickers, *op. cit.*, pp. 57-71.
53. John Dee, *Mathematical Praeface to Euclid's Elements of Geometry*, London, 1570, first page.
54. Vickers presents a somewhat over-stated case in "Analogy versus Identity: the Rejection of Occult Symbolism, 1580-1680", in Vickers, *op. cit.*, pp. 95-163.