INTRODUCTION

From the mid-sixteenth to the late-seventeenth century, one of the most important metaphysical concepts in Western Europe was that of the divinity and generative power of light. At the heart of the Counter-Reformation, the Jesuits located the Eucharistic monstrance whose blazing aura of gold displayed the sacramental authority of the Church to reunite the repentant sinner with God. Subsequently, this vision of the divine light of the Holy Spirit, as the instrument of union with God, was expressed less doctrinally in the moderated pietism of the seventeenth century Cambridge Platonists.¹ Such historical currents evolving a personalised interpretation of scripture, in which God and human were united through the indwelling light of the Spirit, rather than through the rites of the Church, were strengthened in hermetic and neoplatonic circles by the Christian cabbalah. This theosophical system envisaged God creating the world out of his own divine luminosity; hence, for cabbalists, the universe was not only pervaded by the divine light of God, it was united monistically to him.

Although there has been much dispute among historians concerning the specific role of hermetic theosophy in the development of Lutheran pietism, scholars, such as Peuckert and Stoeffler, have acknowledged that an important contribution was made by radical theologians of the late sixteenth century, such as Valentin Weigel and Johannes Arndt, who were influenced by Paracelsian cabbalism.² Weigel and his followers began to produce their own interpretations of scripture in which the sacramental rituals of the Lutheran Church and its demands for political authority increasingly appeared superfluous and objectionable.

Most historians have neglected the contribution of the alchemists to these distinctive and revolutionary theological movements, at best mentioning in passing figures such as Heinrich Khunrath (1560-1605), Michael Maier (1568-1622) and Robert Fludd (1574-1637). Yet, their Paracelsian-cabalistic metaphysics of light revolutionised contemporary alchemical theory, even prompting its adepts to deploy the rays of the sun and the stars in their practical work. In turn, their alchemised theol-

ology was a widely publicised and controversial contribution to the debates between the established Lutheran Church in Germany and the reformist movements inspired by Melancthon and sponsored by Calvinist preachers in the late sixteenth and early seventeenth centuries.

Historians of alchemy have almost ignored the central role of the imagery of light in late sixteenth century Paracelsian alchemy, regarding this as being a poetic expression of some vague mystical experience, or a flowery literary convention. Debus is one of the few to have discussed this Paracelsian metaphysics of light in his extensive studies of Fludd’s alchemy. More recently, Clulee has examined the natural philosophy of the Elizabethan theurgist, John Dee (1527-1609), noting, in particular, Dee’s use of scholastic optical theory in the astronomical magic of his Propaeudemata Aphirotistica (1558). Clulee, however, did not relate Dee’s astral theurgy to alchemy, nor to theosophy, since he did not consider Dee to be a Paracelsian, although he acknowledged the innovatory significance of Dee’s cabbalism in his later alchemical treatise, the Monas Hieroglyphica (1564). Few other scholars have examined critically the references to celestial light in late Renaissance alchemical texts and illustrations and major alchemists of the period, such as Khunrath and Maier, still await a definitive study.

In view of the fact that scholarly research into the alchemical discourse of light is relatively little developed, the present study will attempt to redress this absence by focusing on Renaissance ideas of the generative power of the light of the sun, stars and planets. Renaissance alchemists, such as Khunrath and Fludd, conceptualised the astral rays of light as being the agents of the “anima Mundi”, the cosmic soul or “Anthropos”, out of whose primeval substance, the quintessence or “azoth”, the universe was generated. Cabbalistic alchemists, moreover, identified the cosmic Anthropos with Christ, whose sacred presence within the alchemical process transformed it into a sacramental act, paralleling that of the Lutheran Eucharist.

Alchemists, since hellenistic times, had relied on the effects of the stars, but a coherent theory of the astral virtues began to develop only in the late fourteenth century, appearing in its full expression in the work of Paracelsus (1493-1541). In addition, John Dee added his own distinctive contribution to the sixteenth century theory of the generative stellar rays. These alchemists provided the basic foundation for Khunrath’s alchemi-

4 Nicholas Clulee, John Dee's Natural Philosophy (London; New York: Routledge, 1988).
cal deployment of light-rays and astral virtues, but Khunrath went beyond his original sources in unifying Paracelsian cabbalism with Weigel’s pietistic Christology, producing, thereby, an alchemical polemic expressing the concept of Christ as the philosopher’s stone who transmuted the soul through the light of Eternal Wisdom. Thus, by the early seventeenth century, the alchemical use of celestial rays and natural sun-light involved more than chemistry, since this practice was, in effect, a religious and theurgical ritual. Indeed, late Renaissance alchemists developed a conceptual structure which could be called an “alchemy of light”, a syncretic philosophy integrating the discrete intellectual and mystical currents of Pythagorean geometry, neoplatonism, medieval optics, Paracelsian alchemy and cabbalism.

The concept of the divinity of light had been transmitted from the most ancient times to the late hellenistic philosopher Plotinus, as well as to various gnostic and hermetic groups, such as those connected with the theosophical writings known to the Renaissance as the Pymander of Hermes Trismegistus. In origins the term “hermeticism” referred to the late hellenistic teachings of Trismegistus and his followers, such as Asclepius. This theosophical system had emerged by the second century BC in Egypt, but at first it did not include alchemy which developed only during the first Christian centuries, alchemical literature being added to the earlier hermetic corpus by the second century AD. According to Copenhaver, these alchemical texts, as well as other magical treatises, are integrally related to the seventeen, purely theological, hermetic writings. He argues that eighteenth century scholars, prejudiced against occultism, had made a false distinction between the various components of the corpus which would have been meaningless to the contemporary followers of the original school of thought. Consequently, hermeticism is not only a theosophical system, but also a practical theurgy.

The development of hermeticism was historically distinct from that of neoplatonism and it had been ruthlessly criticised by Plotinus for its superstitious practices and inconsistent theological structures. Nevertheless, Renaissance philosophers, such as Ficino, disregarded Plotinus’ animosity towards the hermeticists and they accommodated both systems within their vision of a “prisca theologia” anticipating the Christian religion.² Plotinus’ sophisticated theogony of light was received by medieval Western philosophers in the moderated Christian versions of Pseudo-Dionysos and St. Augustine. In the fifteenth century, as a result of the recovery and

² For discussion of the hermetic corpus see Brian P. Copenhaver, Hermetica (Cambridge University Press, 1992), pp. xxxii-l.
translation of the neoplatonic and hermetic Greek texts, the Florentine humanist Marsilio Ficino began to promote the use of astral rituals in a medical and psychological context. His younger contemporary Pico della Mirandola, like Ficino, integrated these practices with Christianity, but in addition he introduced the cabbalah into Renaissance hermeticism.\(^6\)

The German natural philosopher and magus Cornelius Agrippa (1486-1533) popularised astral magic through his treatise, *De Occulta Philosophia* (1533), justifying such practices by claiming the existence of a natural sympathy between the human-being and the universe, an idea already well-known to the middle ages. On the model of Agrippa, this venerable notion of the harmony between celestial and human realms was systematised for medical use by Paracelsus who created an analogical structure known as the “doctrine of signatures”. He taught that in all material entities there existed hidden virtues whose qualities corresponded to those of the planetary bodies in the heavens. These occult virtues he called “astra” to designate the “signatures” (the impressions) of the stars on matter. Paracelsus argued that, due to the intimate unity between heaven and earth, alchemical processes had to be correlated with the movements of the planetary bodies and the fixed stars. Through Ficino, Agrippa and Paracelsus, John Dee encountered the theory of astral influences which provided him with the foundation for his own natural philosophy, medicine and practical magic. In fact, it was Dee’s ambition to devise a more efficient way of exploiting stellar and solar radiations in all aspects of human endeavour, but most especially in medicine and alchemy.

In addition to his interest in astrological sympathetic magic, there was another, very unusual, influence on Dee’s alchemy which was of equal importance to his hermetic sources, namely, optics, the medieval scholastic science of light. In his *Propaedeumata Aphoristica* (1558) Dee used this pragmatic body of knowledge for more esoteric purposes.\(^7\) Specifically, by means of catoptrics (the reflection and refraction of light-rays by mirrors and lenses), Dee thought that celestial rays could be manipulated more reliably to enhance all aspects of human affairs. The metaphysical rationale for Dee’s astronomical and optical magic was provided by the

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\(^6\) Martin Plessner and Felix Klein-Franke (Marsilio Ficino), *De Triplici Vitae libri tres* (1489) (Hildesheim; New York, 1978) esp Ch 3 “De Vita coelitus comparanda” (no pagination); Giovanni Pico della Mirandola, *Conclusiones nongentae in omni genere scientiarum* (pr. IB, 1532).

cabbalah, which he integrated into his alchemy in the 1560s. His fully developed system of natural philosophy was published in the *Monas Hieroglyphica* (1564) which combined optics, geometry, magic, alchemy, medicine and cabbalism.\(^8\)

Dee’s last published treatise was the *Mathematicall Preface* to Henry Billingsley’s translation of Euclid’s *Principles of Geometry* (1570).\(^9\) Although this essay has not been related to alchemy by Dee’s scholars, nonetheless, it may have been an additional influence on Maier, Khunrath and Fludd. In the *Mathematicall Preface* Dee examined Pythagorean geometry in its practical and mystical aspects, although he did not relate his text to alchemy at any length, mentioning only briefly a practice called “Archemastrie” which comprised alchemy and other magical arts (*Math. Pref*: f. Aijir). In addition, another of his concepts in this treatise, that of “zographie”, could have had a special effect on alchemical illustration (*Math. Pref*: f. dijv). “Zographie” was a Pythagorean-based method of graphic depiction which Dee regarded as a conceptual art-form with a high philosophical status, since the “zographer” drew only the forms of the eternal Ideas in the mind of God, rather than their base natural copies. Most significant for the present argument was Dee’s inclusion of the single-point perspective system within the scope of “zographie”.

It should be noted that in 1595 there appeared in Khunrath’s *Amphi- teatrum Sapientiae Aeternae* (frontispiece) an illustration which employed exaggerated spatial effects. The peculiarly deep vista of this engraving of an alchemist’s Oratory-Laboratory involved far more than naturalistic illusionism, since the spatial geometry functioned as a semiotic system in its own right, discoursing on the alchemical significance of light-rays.

According to Goldberg, fifteenth century Florentine painters such as Masaccio and Domenico Veneziano had used geometrical infrastructures, such as the one in Khunrath’s treatise, both as an organisational device and as a signifying discourse (fig. 36).\(^10\) These graphic scaffoldings underlay the painted scene, operating as a conceptual sub-text which drew the viewer into a parallel metaphysical world. In order to clarify this interpretation of Khunrath’s image of the laboratory, Goldberg’s


model can be amplified by taking additional recourse to Peirce’s semiotic taxonomy of three types of sign, namely, those of symbol, icon and index. First, however, it is necessary to understand the original intentions behind the development of the single-point perspective system during the early Renaissance.  

The geometrical theory of this spatial system was first expressed by Leone Battista Alberti in his treatise on painting, De Pictura (Florence, 1435). He had explained that the orthogonal lines of any architecture illustrated by the artist should be drawn as if they were running into the picture to meet in a single vanishing-point. In accordance with this new pictorial convention, in many fifteenth-century Florentine paintings of an interior scene the floor would be drawn in a chequer-board pattern to reinforce the same illusion of space receding to a vanishing-point. The technical term for this pictorial effect was the “pavimentum diminutionis” (fig. 1).  

Alberti had based his perspective system on the model of medieval optical diagrams which depicted the operation of light-rays in relation to the human eye (figs. 2, 11). Hence, in the semiotic functioning of the single-point system, its genealogy in medieval optics continues to operate as a sub-text. To use Derrida’s terms, the original optical geometry which had provided the structure for single-point space continued to exist within it as a signifying trace. Derrida’s “trace” (le trait) is the transcendental signifier unifying the disparate (and conflicting) elements of a discourse. Hence, the generic signifier of the single-point perspective system would be the eye of the viewer and its discourse that of the struggle between the rhetorical devices of the picture and the objective judgement of the interpretant.

The visual strategy of perspective space acquired a deeper spiritual significance in the context of Khunrath’s alchemical illustration in which the generic signifier was transposed from the viewer’s eye to that of God, who regarded the scene from a viewing-point transcending the space of both the physical world and of its pictorial copy. Khunrath’s spatial con-

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struction, thereby, acquired a “second-level signification” in Barthes’ terms. Although the spatial geometry continued to function with its original significatory purpose (that is, producing the visual illusion of space), it had additionally accumulated other levels of meaning from a network of pre-existing symbols. In fact, the function of optical geometry in alchemy may have been related to that of religious Christian imagery, as a sympathetic magic drawing the viewer into the presence of God (frontispiece). Alberti in *De Pictura* had been interested in the use of rhetorical devices in painting and he had modelled his pictorial system on the persuasive techniques of Cicero and Quintilian. Hence, Alberti’s perspectival construction aimed to promote such an effective illusion of reality that the viewer, automatically convinced by the visual text, would surrender his resistance to its implications.

Taking the present analysis still deeper into the field of semiotics, the significatory mode of single-point perspective can be defined as that of the metonym, or index, in Peirce’s terms. As a signifying mode, this type of space was intended to persuade the viewer that physical reality continued into the picture, progressing, in the case of Khunrath’s engraving, to its culmination in the eye of God (frontispiece). In alchemical illustration this discursive visual mode provided a demonstrative proof of alchemical claims that matter could be united with its opposite, spirit, in the philosopher’s stone. In Khunrath’s image, however, there was more at stake, as will be discussed, for he employed this spatial rhetoric of the divine presence in order to authenticate his pietistic alchemical theosophy.

It was Khunrath, in fact, who produced a fully-developed cabalistic “alchemy of light” in three of his works, published as the *Amphiteatrum Sapientiae Aeternae* (1595; 1609), *Chaos* (circa 1598) and *De Igne Magorum* (circa 1602-1604). For his cabalistic ideas Khunrath relied on Johannes Reuchlin in *De verbo mirifico* (1494) and *De arte cabalistica* (1517), as well as on Paracelsian theosophy. The central Jewish cabalistic text, the *Zohar*, had derived its metaphysical concepts from neoplatonism, specifically from Plotinus’ account of the manner in which the divine light of the First Principle had emanated the world from its own being. Khunrath’s cabalistic alchemy was centred on the theme of divine light as the Paracelsian “azoth” which, in turn, was Christ himself. He was not the first to

18 Peirce, 2, pp. 170-72.
apply cabballism to alchemy, since Joannes Pantheus of Venice had devised a comparable system in his *Voarchadumia* (1530) and Dee had also produced a cabballistic alchemy in the *Monas Hieroglyphica* (1564). Khunrath, however, placed his cabballism within a Christological framework, so much so, that his main concern from 1595 was not alchemical theory, but pietistic Christian theology, anticipating, perhaps, the alchemical mysticism of Jacob Boehme.

Khunrath may have developed his Christological alchemy in the mid-1590s, both as a response to anti-Christian tendencies within German hermetic circles and also as an expression of a pietistic Lutheranism which was critical of the doctrinaire, institutionalised creed of the time. His work, thus, belongs to the diverse ideological currents of the late sixteenth and early seventeenth centuries which, subsequently, manifested as the “Rosicrucian” movement. The supporters of the “Rosicrucian Manifestos” (1614; 1615) were a heterogeneous mix of reformist Lutherans, hermeticists, neoplatonists and practitioners of Agrippan and Paracelsian theurgy. Although many devoted Protestants, such as Maier and Fludd, polemicised on behalf of the Rosicrucians, there were also pagan and non-Christian influences within the movement related to the chiliasm of Simon Studion, Julius Sperber, Christoph Besold and Tobias Hess in the late sixteenth century. 19

According to Yates, it was Dee’s travels in central Europe in the 1580s which had stimulated the reformist currents that later emerged as the Rosicrucian brotherhood (the Protestant version of the Jesuit order). 20 Yates was not altogether accurate in her assessment of Dee’s conceptual influences on central Europe, for, not only did cabballistic, hermeticist and Paracelsian ideas pre-exist Dee’s presence in that region, but, moreover, the so-called “Protestant front” itself was deeply riven by the disputes between Lutherans and Calvinists and further complicated by the antagonism of the doctrinaire theologians towards the pietists and theosophists. 21

In fact, Yates’ account of the origins and influence of John Dee on the development of Renaissance science, philosophy and theurgy, has been questioned by various scholars, such as Westman, Vickers and Sherman.

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Most especially, historians of the scientific revolution have attempted to disconnect its origins from those of Yates’ proto-Rosicrucian circles.\textsuperscript{22} Furthermore, Yates’ alignment of the Protestant cause with hermeticism was countered by scholars eager to distance Lutheranism from such objectionable associates. In particular, Montgomery, adopting a conservative Lutheran perspective, argued for the negative effects of hermeticism on the reformed Church in Germany. He refuted Yates’ interpretation of the Rosicrucians as being the esoteric outpost of the Protestant reformed church, especially removing the theologian Johann Valentin Andreae (1586-1654) from that context. Montgomery, in fact, developed a contrary argument to Yates, considering that neoplatonic and hermetic literature had inspired the educated German elite to devise a paganistic system, decentering Christ from his redemptive role in human salvation.\textsuperscript{23} In this line of thinking he concurred with Frick (though from a different ideological standpoint) who had demonstrated the inherited links between Paracelsian theology and pagan hellenic esotericism. Frick had also emphasised the continuation of medieval chiliasm in Weigel’s theology and in that of the Rosicrucians, particularly that of Joachim of Fiore, who in the thirteenth century had predicted the coming of the third age of the creation, that of the Holy Spirit, replacing the second age of the Son in which the institutionalised Church had controlled Christian doctrine. In the third age, Fiore had taught, each person would be guided by the inner word of God written on their soul, instead of by external creeds. This brief period of time would be followed immediately by the end of the world and the last judgement.\textsuperscript{24}


Disregarding Montgomery’s denial of Andreae’s participation in these movements, Dickson in his recent study of the secret societies of the early seventeenth century has returned to Yates’ original contention that the Rosicrucian Manifestos known as the *Fama* (1614) and *Confessio* (1615) emerged from Andreae’s circle at the University of Tubingen. Andreae’s subsequent negativity towards the Rosicrucians in his later years had been cited by Montgomery as proof that he had always been averse to the hermeticists. Dickson, in contrast, favours a different view which is that Andreae was eventually compelled by the need to distinguish between his youthful goals of a socially- and politically-responsible Christian brotherhood and the materialistic drive for power of those who had submitted to the delirium of cabballism, alchemy and chiliastic prophecy.

In this aim, Andreae’s position was similar to that of Khunrath, since both had been influenced by Weigel, as well as by Arndt. Nonetheless, Khunrath was also finally rejected by Andreae, due to his cabbalistic alchemical terminology which Andreae found absurd. There may, in fact, have been another, more paradoxical, reason for Andreae’s animosity towards him, which was that Khunrath could have been in dispute with Tobias Hess. Yates, Gilly and Dickson are in agreement concerning Andreae’s earlier connections with hermeticist magi, in particular, with Hess with whom he maintained contact through-out his life. Andreae even justified Hess’ probity in the *Mythologiae Christianae* (1619), although in this work he castigated most of the other proto-Rosicrucians. Khunrath, on the other hand, for all his cabbalistic paraphenalia, may have conflicted with Hess over the latter’s promotion of Studion’s chiliastic *Naometria*, a text whose Christian content was slim, leading Khunrath to suspect him of paganistic magical practices.

In view of such evidence concerning disputes between members of hermetic circles in the 1590s to 1620s, a more specific account is required of their ideologies and affiliations. Scholars, for example, have neglected to analyse Khunrath’s specific involvement with these esoteric groups, being content to follow uncritically Yates’ view of him as one of the most significant influences on the evolution of Rosicrucian ideas, despite the fact that Montgomery had denied this. The most valid assessment of

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26 Dickson, pp. 62-88.
Khunrath’s career probably lies mid-way between these two scholarly assessments. Certainly, after his death, Khunrath’s work was co-opted by others into the Rosicrucian canon, but this does not automatically demonstrate his ideological kinship with all of the Rosicrucians. For, although Khunrath in his writings and visual imagery, like other hermeticists, expresses a critical attitude towards scholastic Lutherans, nevertheless, he did not reformulate Lutheran theology into an esoteric sub-species, in the manner of Studion and Hess, for whom Paracelsus and cabalism seemed to hold as much authority as Christian doctrine. Instead, Khunrath used these esoteric systems to develop a pietistic Lutheranism, based on Weigel, in which the historical figure of Christ and the Lutheran Eucharist were retained both in their conventional doctrinal forms, as well as being used as emblems of individual spiritual experience. Although his interpretation of the sacraments may have run counter to the dogmatic claims of the Church as the sole administrator of God’s grace, nonetheless, he was adopting a relatively mediatory position, like Weigel and Arndt, rather than rejecting the Church altogether.

In the second half of the sixteenth century, alongside the deregulating forces of Philippism and Calvinism which threatened orthodox hegemonies, the esoteric philosophies promoted at the University of Tubingen were an assisting factor. There is no doubt that Agrippa, Paracelsus and the cabalalah offered their followers an increasingly self-determined spiritual and political authority. Hence, Khunrath’s writings present a broad picture both of these extremist spiritual factions who found their expression outside the doors of the Lutheran Church, as well as of the pressures on the pietists within its communion exerted by dogmatic Lutherans who condemned as heresy any deviation from institutionalised beliefs. There remains little original documentation on Khunrath which could prove conclusively the exact nature of his political affiliations, but his writings provide strong evidence that he was engaged in a two-pronged resistance, against both the paganistic theurgists and the scholastic Churchmen, thereby opening himself to attacks on all fronts.

When the Rosicrucian movement emerged publically in 1614 and 1615, Khunrath’s alchemy was appropriated into the Rosicrucian canon by some of its most earnest supporters, such as Michelspacher and Fludd, but there is evidence that not all of the Rosicrucians regarded Khunrath so favourably. Moreover, few of the later alchemists related the figure of Christ integrally to their alchemical discourse in the manner of Khunrath, whose writing was aimed primarily at a pietistic, German community, rather than at a general European audience.

The present study will concentrate on the intellectual and spiritual concerns of the 1590s to 1620s, using Khunrath’s *Amphiteatrum Sapientiae*
Aeternae (1595; 1609) as a focal-point in analysing the rhetorical practices of Paracelsian theosophists, specifically their use of certain types of visual illustration. Since it is not possible to examine all the major alchemists of the late Renaissance, the discussion will be confined to the cabbalistic metaphysics and optical alchemy of four central figures, those of Dee, Khunrath, Maier and Fludd.