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The alchemical quest and renaissance epistemology: with a comparitive study of Ben Jonson's:The Alchemist and William Shakespeare's: The Tempest

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CHAPTER ONE

Contextualising Alchemy

Why Alchemy?

The conceptions and portrayals of alchemy through the ages have always been charged with ambiguity and ambivalence. For the most part, except for those scholars who are interested in its socio-historical significance, alchemy has been regarded as, at best, the first faltering and ignorant steps towards modern chemistry and science, or, at worst, the manipulative attempts of the more devious-minded members of medieval and early modern society to defraud their gullible contemporaries.

Thus, to use alchemy as the framework of a scholarly dissertation on the relationship between literature and knowledge might seem somewhat dubious, if not entirely foolhardy. Within the context of a rich debate around the historical relevance of esoteric subjects, Stanley Redgrove points out in the preface to the 1910 edition of his book, *Alchemy: Ancient and Modern*, that "The time is gone when it was regarded as perfectly legitimate to point to Alchemy as an instance of the aberrations of the human mind" (xi).[1] One of the more recent apologists for the relevance of alchemy to a more balanced understanding of the narrative of ideas through the ages is Lawrence Principe. He is strident in his criticism of scholars who have either underrated or completely dismissed the role of alchemy in the history of knowledge, especially in the fields of science and medicine. He suggests that one of the possible causes for the lack of serious historical engagement with

[1] Brian Copenhaver, too, suggests that given the extensive scholarship that has been devoted to occult influences on Renaissance worldviews, "No longer … would historians of science see magical thought as a continuing embarrassment in the story of genuine science or as a primitive survival in otherwise modern currents of ideas" ('Hermes Trismegistus', 79).

alchemy is "Lingering prejudices against what has been seen for the past two centuries primarily as irrational and misguided – at worst mere charlatanry and at best pseudoscientific" (4). Principe urges a more rigorous approach to combat the lackadaisical attitude that accepts alchemy as "a very convenient (and simplistic) foil against which to set off modern science" (4). Finally, he addresses the many obstacles which hamper those who are genuinely interested in the subject, and laments the fact that "much published literature on alchemy is simply *bad* – pitiful translations of primary sources, ahistorical caricatures masquerading as history, and a parade of modern esoterica and assorted fluff presented as if they were directly connected to historical alchemy" (4).

Historical Context

One way to redress the balance is to recognise the weight of academic, philosophical and religious authority that underpinned the writings and doctrines of alchemy, and which served to establish it as an influential current of belief during the Renaissance. It is important to remember that until the advent of modern European rationalism, alchemy was deemed to have a distinguished pedigree and to be a valid strand of human knowledge and endeavour. Copenhaver explains that:

> Prominent philosophers acknowledged and defended principles of occultism. As long as medieval thinkers shared the metaphysical, physical and cosmological premises of ancient philosophy, some concessions to magic were inevitable since the elements of the magical worldview were common ideas well respected by ancient philosophers. The revival of ancient learning in the Renaissance could only deepen the conviction – already familiar in the Middle Ages –

> that the *magus* and the philosopher used much the same conceptual lexicon ('Translation, Terminology and Style', 266).

Specifically, during the Middle Ages and the Renaissance, alchemy and other occult sciences came to play a central role both in making sense of past and current systems of belief in the West, the Old World; and in shaping the progress of new scientific, medical, and philosophical advances in England and on the Continent, as novel cultural phenomena were integrated from the New World. This process of integration is bound to be significant in relation to the associations between the 'esoteric' and the 'scientific' – the old and the new – at this time.

In his article on 'Hermes Trismegistus, Proclus, and the Question of a Philosophy of Magic in the Renaissance', Copenhaver urges that "Attention to the philosophical, cosmological, and theological contexts of such thinking about magic will be a healthy antidote to the impulse to view any interest in occultism as a deviation from religious probity or scientific rigor or philosophical depth" ('Hermes Trismegistus', 88). In *The Cambridge History of Renaissance Philosophy*, Copenhaver elaborates on the epistemological relationship between classical wisdom, the occult, and the new philosophical focus during the Renaissance:

> If theoreticians of magic and their opponents found support in the philosophical remains of antiquity, the profession of philosophy in the Renaissance also organised its studies along lines that continued to stimulate interest in occultism. Topics well established in most of the standard divisions of philosophy encouraged speculation relevant to occultism ('Translation, Terminology and Style', 288).

Stanton Linden's assessment provides some qualification of the status of alchemy during this era, as he observes that, "While it [alchemy] flourished throughout the Middle Ages, Renaissance and seventeenth century, it was during much of that time enjoying its final phase of popularity and credibility" (11).[2] Despite this, there were many reasons why alchemy, magic, and several other arcane practices thrived during the Renaissance. Paul Oskar Kristeller adumbrates some of the reasons for the growing respect that was accorded to the occult sciences:

> The libraries and minds of Renaissance readers and thinkers were stocked with many texts and ideas unknown to their predecessors, and even if we were to deny any lasting validity to the doctrines of most Renaissance philosophers, the intellectual ferment brought about by the addition of new sources and of new ideas to the medieval heritage was an important factor in preparing the intellectual climate for the new science and the new philosophy of the seventeenth century. The great role played during the Renaissance by astrology, alchemy, magic and other occult sciences has few links with humanism or for that matter with Aristotelianism, but came to be associated with Platonism ('Humanism', 136).

One of the contemporary conditions conducive to the growth of the occult is recognised by Hiram Haydn in his book, *The Counter-Renaissance*. He observes: "As the later [sixteenth] century wore on, the turning away from

[2] According to Principe, this 'final phase' extended well into the twentieth century, and he speculates as to the reasons why alchemy lost its purchase in the popular mind: "[Modern] historiography ensured that alchemy did not fare well. Not only was alchemy something 'unsuccessful' in the development of science – having been replaced during the Scientific Revolution – but it also seemed to embody all the nonlogical, mysterious, metaphysical, superstitious, and occult qualities that were anathema to twentieth-century positivism. This view of alchemy – which is not by and large supported by historical texts – was forged by historians labouring at a time when alchemy had been co-opted and thoroughly misrepresented by the occultist revival of the nineteenth and early twentieth centuries" (18).

Aristotle's natural philosophy and the rise of Paracelsanism encouraged the development of occult philosophy and a favouring attitude toward natural magic" (250). Richard H. Popkin, too, recognises the gradual waning of Aristotle's prevalence as classical authority. He suggests that, "With the recovery of so much more classical learning during the Renaissance some realised that Aristotle, rather than being 'the Master of them that know', was just one of many ancient thinkers, and that his accomplishments might actually be far less than had been claimed by his ardent scholastic followers" ('Theories of Knowledge', 672). This suggests that there was a fundamental breakdown in authoritative intellectual succession, and serious doubts about previously accepted grounds of knowledge.

William J. Bouwsma reasons that:

> Until well into the seventeenth century, the mood of most people who contemplated the current scene was grim. The exhilarating freedom apparent in many aspects of human experience was gradually dissolving. Hope was increasingly rare, despair on the rise; God himself seemed more and more indifferent to the world" (112).

Hiram Haydn's assessment of the general ethos of this period resonates with Bouwsma's view:

> The story of the Elizabethans is in a peculiar sense similar to our own. They, like us, were born and lived in an age when the old universal faiths were no longer tenable in their traditional forms, and yet before new ones had been fully formulated and established to take their place – before there were adequate symbols to express and compass the new horizons that men were beginning to perceive (14).

While this might seem to imply a fracturing of intellectual continuity, the scepticism that permeated the epistemology of the period paradoxically generated unprecedented scholarly energy that informed every arena of Renaissance life. This helps to explain why "The assault on scholasticism's barbarous jargon and the argument that its dialectic was irrelevant to genuine human concerns were also assertions of a different way of thinking" (Vasoli, 59). Popkin provides a more detailed analysis of the paradigm shifts that took place during this period:

> Scholastic logical training concentrated on establishing the validity of syllogistic reasoning. But, as the humanist critics pointed out, this did not aid in the pursuit of truth. Utilising some of the sceptical material in Cicero's writings, they contended that there were great difficulties in discovering truth, and that the best that men could do was work out methods of discovery, arts of reasoning, which would lead to the most probable or most useful knowledge rather than to valid but vacuous syllogistic conclusions ('Theories of Knowledge', 672-73).

In his substantial socio-historical study, *Religion and the Decline of Magic*, Keith Thomas discusses various factors that might have had a bearing on the dynamic interrelationship between the constraints of a relatively under-developed society on the one hand, and the "unprecedented ferment of scientific and intellectual activity" on the other hand, which distinguished the Renaissance (4). Bouwsma's view complements Thomas's: "The result [of the Renaissance dethronement of reason] was a general crisis of knowing that came to a head … and that encouraged a search for more reliable kinds of knowledge" (35). He goes on to argue convincingly that "thinkers were

searching for ways of knowing consistent with the new conception of human being,[3] in which so much more than reason was involved" (48).

This search was anything but systematic or methodical, and many scholars and philosophers displayed a "tendency to mix materials from different cultures and systems of thought" (50).[4] This explains the rather eclectic nature of philosophical alchemy, which attempted to explain allegorically the paradoxes and ambiguities of human nature negotiating the tensions between the material and the spiritual worlds.[5] In his discussion of 'The Limits of Natural Magic', Wayne Shumaker suggests that "a more outrageous allegorising of alchemical operations that made them appear conducive to salvation" may have contributed to the vogue of theorising about the relevance of alchemy to life, both temporal and spiritual (11). However, this utilisation of the occult for epistemological and philosophical ends did not necessarily conform to heretofore accepted orthodoxies. Instead, "much of the most innovative debate of the period on questions of attainment of knowledge concerns disciplines whose credentials as *scientiae* were perceived as questionable: the 'unorthodox' sciences, astrology, alchemy, natural magic and so on" ('Limits of Natural Magic', 685).

[3] See more about Bouwsma's explanation of the Renaissance conception of 'human being' at the beginning of the following chapter.

[4] Vasoli makes a similar point in his observation: "Authority was passing from the theoretically indivisible monolith of *Christianitas* to a medley of particular institutions operative at all levels of civic life" ('Renaissance Concept of Philosophy', 58).

[5] Copenhaver and Schmitt point out that, "Early modern thinkers were not as quick as later critics to assume that alchemy and other varieties of 'occultism' … could never be taken seriously by serious philosophers; so they used these alternative views along with traditional materials to construct some of the more venturesome conceptions that the Renaissance produced" (*Renaissance Philosophy*, 287).

Alchemy and the Invention of Printing

Probably the most important factor in the dissemination of knowledge in general, and the growth in awareness of alchemical lore and practice in particular, was the invention of printing in the late fifteenth century. The shift from script to print, as Elizabeth Eisenstein points out, "revolutionized all forms of learning" (3). Not only did this innovation revolutionise the speed at which knowledge could be circulated, it also contributed to a dynamic reconceptualisation of the intellectual project of the Renaissance. Copenhaver and Schmitt recognise the mutually affective relationship between print and the changing intellectual paradigms of the early modern period:

> As the world of learning expanded with the growing reach of the printed word, the world of experience widened in broader and bolder voyages of exploration, whose repercussions in the philosopher's study were unexpectedly great. Discoveries of new lands and peoples shattered the space in which Plato and Aristotle had lived and thought, breaking the narrower boundaries that they naturally took as a framework for natural and moral philosophy (*Renaissance Philosophy*, 22).

Printing thus enabled the conversation between old and new modes of doing and thinking, while embodying the emergent misgivings about ancient authority. The received methods and abstract logic of medieval scholasticism were increasingly seen as being decontextualised from and therefore irrelevant to life. In addition to this, the spread of alternative modes of intellectual enquiry revealed the ever more apparent fissures in the

structure of the neat and heretofore authoritative Aristotelian system of knowledge. Cesare Vasoli contextualises this epistemological shift:

> [Though] scholastic distinctions and divisions were rejected, the very conception of philosophy was changing because its chief object was now man – man was at the centre of every enquiry – and because the direct appeal to classical models demanded the rejection of traditional epistemological methods ('Renaissance Concept of Philosophy', 61).

Bouwsma's view balances Vasoli's, as he argues that the growing doubts about the unassailable authority of received knowledge resulted in a widespread scepticism (38). "Thus thinkers of this period, no longer able to rely on the wisdom of the ancients, less confident of reason, and disoriented by linguistic change, were desperately concerned to find other, more dependable ways of knowing" (45). These 'ways of knowing' were, perhaps inevitably, rather mixed. Copenhaver and Schmitt explain the nature of the intellectual diversity of the early modern period:

> Scholars looked more widely and deeply into the world of learning. The eclectic curiosity so characteristic of the sixteenth century fed on growing libraries. But eclecticism threatened orthodoxy; information bred contradiction; print nourished philology…. Books spread confusion as they enlarged communication, and print was a wonderful vehicle for controversy (*Renaissance Philosophy*, 56).

Few other fields of knowledge were characterised by more eclecticism and controversy than that of occult lore, which included natural magic, alchemy, and other esoteric arts. While the occult was often deemed to be on a par with more orthodox disciplines, the complex relationship also epitomised a

rather murky and often contentious enmeshment.[6] While printing exposed the debates about the connections between magic and science to a wider audience, it seemingly did little to advance consensus. Eisenstein makes an observation about one of the consequences of printing on the development of modern science, which may explain to some extent the 'negative press' that alchemy received during the Renaissance and beyond. According to her,

> Exploitation of the mass media was more common among pseudoscientists and quacks than among Latin-writing professional scientists, who often withheld their work from the press. When important treatises did appear in print, they rarely achieved the status of bestsellers (187).

However, while these 'pseudoscientists' capitalised on the exposure to be got from print, they were often the butt of negative fictionalised treatments in print. Linden explains: "The alchemists who are singled out for treatment by medieval and Renaissance satirists are generally adherents of the practical or exoteric type. More accurately, they are *pretenders* to alchemical wisdom" (26).

Linden accentuates the distinction between the philosophical, esoteric alchemy and the more observable and more easily authenticated or

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[6] Shumaker points out: that, "What the Renaissance called magic was a more nearly direct ancestor of true science than either of the dominant philosophies, Aristotelianism and Platonism. The reason is that magic aimed, in a way the philosophies did not, at producing changes in the physical environment desired by the operator, and therefore practitioners of magic were better motivated both to experiment and to compare the results with expectations" (*Occult Sciences*, 3).

In his discussion of 'The New Philosophy of Nature', Alfonso Ingegno makes a similar point, asserting that, "Magic, and the astrological premises that accompanied it, made operational a fully evolved nexus of forms which guaranteed the existence of a sphere in which man's cosmological position took on a new dimension…. Proof of this was man's ability, under certain conditions, to attain supracosmic levels, to command the elements and to prophesy. The process of ascent was complementary to magic; the two were interwoven and restricted to the initiated" ('New Philosophy', 28).

disparaged material operations of alchemical practitioners. He draws our attention to the significant conflict inherent in the understanding of the integrity and 'truth' of alchemical writings, as opposed to the deliberate deception which contemporary readers were exposed to. David Hawkes provides further clarification of the fundamental divide between 'true' and 'false' alchemists:

> [The] distinction between the spiritually oriented, idealistic adept who sought to assist nature in her operations and the materialistic 'puffer' or 'sooty empirick' who attempted to pervert natural processes for financial gain was not always obvious to the outsider, as we can tell be the prevalence of didactic satire on this subject. In English literature of the late middle ages, the figure of the fraudulent alchemist is frequently used as a metonym for the vanity of worldliness and covetousness in general. False alchemy, which perverted a philosophy the purpose of which was to spiritualise matter into a means for material enrichment, provided an excellent synecdoche to express the inverted priorities involved in materialism (153-154).

Bouwsma provides further insight into the conflicting (re)presentations of and paradoxical attitudes towards the occult during the transitional period between proto-scientific experiments and the rise of modern science:

> Occult interests could be essentially academic and bookish, a kind of archaeology of ancient mysteries; but they could also express impulses deeply rooted and still vital in popular culture: a feeling for life and nature, a sense of the energies throbbing through the universe …. Such beliefs were utterly eclectic; they drew on materials from various systems of thought as well as the popular imagination….

> Thus occult beliefs were by no means restricted to the vulgar and illiterate. University students were interested in magic (159-160).

The occult was, therefore, not the exclusive domain of the superstitious and uneducated. It seems reasonable that the advent of printing certainly stimulated debate amongst the reading public, while at the same time fragmenting the field of knowledge and promoting a rather negative image of alchemy and other esoteric pursuits.

Introduction and Dissemination of Alchemical Texts in England

Alchemy, then, was never a straightforward, homogeneous body of knowledge, at least not as it was received in the West, where the conception and understanding of alchemy was more or less determined by the transmission, accessibility, and reception of occult literature. As a result, "European occultism includes the concepts of magic, astrology, demonology and occult natural power…. [It] also embraces the related notions of divination, illusion, witchcraft, numerology, cabala and theurgy" (Copenhaver, 'Translation, Terminology and Style', 265). By the end of the Middle Ages, despite, or perhaps because of, the influx of occult literature into Europe, alchemy and other esoteric arts became a complex and increasingly arcane domain of knowledge and belief that could never quite be pinned down with any confidence. It seems that as alchemical literature proliferated, so too did the versions of alchemical depictions and interpretations. Linden testifies to the pervasiveness of alchemical concepts and symbolism, and the more or less ready availability of alchemical literature: "for the author of the late sixteenth and early seventeenth centuries, alchemy was a 'current' topic: knowledge about its theoretical and

practical aspects could be gained from a variety of manuscripts and printed sources, both ancient and modern, Continental and English" (104).[7]

However, this diffusion of alchemical literature does not seem to have done anything towards clarifying the occult mystery that was alchemy. Even by the early seventeenth century, John Cotta sounds a cautionary note concerning the conspicuous proliferation of alchemical knowledge through print, and complains:

> Though comparably to these times no age hath ever affoorded writings more prodigally obvious, nor shew of knowledge with greater affluence, yet in Authors never hath bene either lesse true meaning, or lesse right understanding. Hence as seeming understanding did ever more abound, so never was it of worse report, the goose so liberally giving wings and feathers unto fantasticke thoughts (85).

Protean Alchemy

As Cotta would have it, an abundance of information does not necessarily guarantee clarity of meaning. This was certainly the case with the occult literature of the time: the profusion of printed materials seems rather to have spawned a massive, though elusive and unwieldy, mode of thought and belief. Brian Vickers provides an outline of the broader occult tradition, especially characterised by an all-embracing eclecticism. He argues that "the occult showed a remarkable ability to absorb many diverse traditions of thought" ('Function of Analogy', 265). He goes on to explain:

[7] John Read anticipates Linden's observation, both of the vital role of alchemical literature and the period of its greatest influence: "Of all periods, the seventeenth century is the richest in alchemical writings…. [This] century produced a surprising efflorescence of treatises expounding and defending alchemical doctrines, detailing marvellous transmutations, and emphasising the allegorical, mystical, and spiritual aspects of alchemy" (*Prelude to Chemistry*, 80).

> When the occult sciences were rediscovered in the Middle Ages, as again in the Renaissance, still more schools of thought were integrated with them, so that in studying the most prolific syncretists of the period – Ficino, Agrippa, Fludd, and Kircher – one is confronted with a tradition in which nothing has been abandoned, all ideas have been absorbed into ever more comprehensive syntheses (266).

It is important to keep in mind, though, that eclecticism seems to have been both a motivating factor and a consequence of the general intellectual development of the early modern period. Thus Vasoli asserts:

> [In] the Renaissance there was a disconcertingly complex variety of factors which prevented rigid boundaries between such disciplines as theology, the sciences and political theory. This complexity was the fundamental characteristic of a philosophy which was having to cope with rapidly changing mentalities and ways of life, new political, religious and educational institutions and the particular problems associated with emergent nationalism ('Renaissance Concept of Philosophy', 62).

The eclecticism that characterised the broader intellectual climate also applied to the nature of alchemy. Thus Arthur John Hopkins can link the renewed interest in things alchemical to the larger intellectual developments, arguing that "The awakening caused by the reception of this amazing [alchemical] literature was one of the efficient causes of the so-called Renascence" (131). While much of the alchemical knowledge available at this time laid the foundation for future scientific and medical advances,

many of the widely held beliefs were questionable. This is hardly surprising, because the protean nature of alchemy is, first of all, influenced by the fact that the 'birth' of the art is shrouded in the mists of the distant past, and scholars differ as to the exact location and time of its inception.[8] The putative history of the development of alchemy is further obscured by its heterogeneous parentage. As Shumaker points out, the ancestry of alchemy was anything but coherent. Thus, "By as early as 300 or 400 A.D., alchemy had become a bewildering confusion of Egyptian magic, Greek philosophy, Gnosticism, Neoplatonism, Babylonian astrology, Christian theology, and pagan mythology" (*Occult Sciences*, 169).

This synopsis of the ancestry of alchemy helps to contextualise the breadth and array of alchemical permutations. It also qualifies anachronistic judgements, because although many of the concepts and opinions of the age, especially those that may be categorised as esoteric, "are now all rightly disdained by intelligent persons … they were taken seriously by equally intelligent persons in the past" (Thomas, ix). In the introduction to *The Cambridge History of Renaissance Philosophy*, the editors encourage a more sympathetic understanding of the status of the occult during the Renaissance. They therefore urge an accommodation of "the thought that magic and astrology not only occupied an accredited position in the hinterland of philosophy during the Renaissance, but also entered from time to time into 'purely philosophical' contexts from which they have since been indignantly removed" (3). Consequently, in order to judge fairly, one has to keep in mind that many strands of knowledge from many different disciplines, old and new, traditional and orthodox, fed into the prevailing

[8] There are varying and contradictory notions about the precise historical trajectory of alchemy. However, focusing specifically on the revival of alchemy during the early modern period, Shumaker suggests the possibility that "The beginning of the alchemical renaissance can, indeed, be dated precisely, for the first translation in a long series, that of an Arabic *Book of the Composition of Alchemy*, was completed by Roger of Chester on February 11, 1144" (*Occult Sciences*, 169).

understanding(s) of alchemy, resulting in a somewhat elastic structure of thought.

To muddy the waters even further, alchemy came in many guises: secular, esoteric philosophies based on various classical texts; spiritual doctrines allegedly founded squarely upon Scripture; the meticulous study of nature; wholesale self-deception concerning the qualities and 'spirits' of metals; sincere attempts to find medical cures for the host of illnesses that raged at the time; and (as it was most commonly perceived) the quest for the philosopher's stone, which was reputed to have the ability to transform base metals into a superior kind of gold, and which would ensure eternal health and longevity. In his thesis on alchemy as the legacy of ancient Greek wisdom, Hopkins traces the passage of alchemical thought from the efforts of the ancient Egyptians to replicate the characteristics, if not the nature, of gold, through to its fusion with Greek philosophy, and its eventual introduction into Europe via the Arab invasions. John Read, too, outlines the absorption of alchemical literature into Europe from the twelfth century onwards. He suggests that Arabic texts translated into Latin were introduced via Spain into Western Europe and that this resulted in the widespread propagation of alchemical ideas, which, in England, were subsequently promulgated through the medium of English (*Prelude to Chemistry*, 21).

This historical trajectory is supported by the English translation of Porta's *Natural Magick*, published in 1658, in which he gives an overview, buttressed by frequent reference to classical authorities, of what is meant by 'Magick':

> *Porphyry* and *Apuleius*, great Platonicks, in an Oration made in defense of Magick do witness, that Magick took her name and original from Persia. *Tully*, in his book of Divination, saith, that in the Persian

> language, a Magician is nothing else but one that expounds and studies divine things: and it is the general name of Wise-men in that country. *S. Jerome* writing to *Paulinus*, saith that *Apollonius Tyanoes* was a Magician, as the people thought, or a Philosopher, as the Pythagoreans esteemed him…. So then Magick is taken among all men for Wisdom, and the perfect knowledge of natural things: and those are called Magicians, whom the Latines call Wise-men, the Greeks call Philosophers … and the Cabalists call them Prophets. And so in diverse countries Magick hath diverse names. But we finde that the greatest part of those who were best seen into the nature of things, were excellent Magicians (1).

However, this confident and favourable view was not universally accepted. Alchemy in England became, almost inevitably, a distortion of the traditional ideas and practices. Thus, as Hopkins asserts, "There arose in Western Europe a false alchemy or pseudo-alchemy – an alchemy false in its perception of what the originators of this art had sought to explain and an alchemy vain in its possibility of success" (192). The misrepresentation and subsequent misunderstanding of the nature of alchemy is emphasised in Read's intimation that avaricious alchemical pretenders discredited alchemy through their spurious attempts to gain the reputation of adepts, able to multiply gold, and therefore increase wealth (*Prelude to Chemistry*, 22).

The apparently authoritative tone of Porta's description of the occult, as well as of other contemporary accolades, has to be qualified within the context of the technological limitations of the preservation and diffusion of knowledge at the time. Thus the multifaceted nature of the introduction of alchemical theories and practices before and during this era further obfuscates our modern comprehension of a Renaissance understanding and

application of alchemy. Although both ancient Egyptian and Chinese influences are principally discernable in the European interpretation of alchemy, there are also Greek, Persian, Hebrew, Arabic, and other cultural, religious, and philosophical threads of influence to be distinguished. Alchemy's motley pedigree did not necessarily detract from its eminence as an occult 'science', but was often seen as validating the art. Even the predominant 'pagan' influence was redeemed for Christianity. Thus Robert Fludd could assert with almost arrogant confidence that "It is clear from the opinions of these pagan Philosophers that even they did not stray far from a true knowledge of the divine mind" (*Origin and Structure*, 12).

Mercer, in his book, *Alchemy: Its Science and Romance*, summarises the heterogeneous lineage of alchemy:

> [Alchemists] derived the technical side of their art from the Egyptians. They were practical chemists and metallurgists. But they were also philosophers. They were students of Byzantine and Alexandrian systems which had fused certain doctrines of the Greeks with mystical and magical elements. And thus, though they were in quest of a discovery which involved manipulation of laboratory materials and apparatus, they brought to bear on their task the results of abstract thought. It was this combination of the theoretical and the practical that constituted the peculiar character of the Hermetic art (86).[9]

Extrapolating from the above, and drawing on Linden's corroborating evidence, we may say that the Egyptian influence is to be recognised

[9] Referring to Marsilio Ficino and Pico della Mirandola, George Boas makes a similar point about the interrelationship between empiricism and philosophy: "Whether one uses the word *science* or *philosophy* to name the main interests of these men is unimportant, for the two terms at that time and in fact up to the end of the eighteenth century meant the same thing" ('Philosophies of Science', 244).

principally in the exoteric or practical aspects of artisanship, which included "metallurgy, dyeing, and glass-making", while the Chinese influence can be perceived in the important feature of "its essentially mystical character, a result of its links with Taoism, which dates from about 300 B.C." (Linden, 12). Although these two strands of alchemy are important to our understanding of Western alchemy, the Greek influence cannot be overlooked. According to Linden, "copies of many early Greek alchemical writings survived in medieval and Renaissance England, lending the weight of their authority to the art and its practitioners" (13).

Further fogging the precise history of the development and transmission of alchemy in the West is the considerable Arabic influence, especially discernable in the vital role of Arabic scholars and writers in the dissemination of alchemical literature. Hopkins explains how, at the apex of their military and political might, the early followers of Islam appropriated a substantial body of Greek writings (131 ff.). Linden adds that, "In the case of alchemy, Greek writings were to provide the basis for all subsequent advances of their own, and Arabian scholars enhanced the knowledge of alchemy in the West through preserving, translating, and transmitting the Greek heritage" (14-15). However, while Linden rightly draws attention to the valuable contribution made by Greek literature to the development of knowledge in the West, Hopkins goes even further in his assertion of an often unrecognised reciprocity, in that "alchemy aided in raising Greek philosophy to a world philosophy" (58).

In addition to Western alchemy's eclectic parentage, the two chief traditions of alchemy – exoteric and esoteric – are each characterised by several different facets. Shumaker draws attention to the distinction between the two trajectories of alchemical lore and practice:

> One … was ambitiously, and often rather indiscriminately, experimental, the other philosophical or meditative…. [The latter was] a kind of poetical alchemy which had nothing to do with laboratory operations but was rather an imaginative equivalent concerned really with the purification of the soul (*Occult Sciences*, 170).

Thus, exoteric, or empirical, alchemy included not only efforts to convert base metals into gold, but also the meticulous and extensive exploration into the elements of nature in an effort to discover the medicinal properties of plants and other organic matter, and ultimately the *elixir* which would guarantee power over both illness and death. Furthermore, practical alchemists were concerned with the characteristics, attributes and 'virtues' of chemical substances. It is therefore this practical, exoteric, tradition of alchemy that anticipated modern chemistry, albeit often inadvertently, and as such is vitally important to an understanding of this aspect of scientific history.

Haydn warns against erecting false barriers between empirical science and the occult, and urges an awareness of the affinities between "magic and 'pure' empiricism", especially in their joint reaction against scholasticism (176). He goes on to draw the distinction between the respective goals of philosophical occultists and empiricists: "The first adopts a passive theory of knowledge in the interests of an aggressively individualistic motive; the second employs an aggressively active empiricism in the service of a humanitarian ideal" (176). While these ultimate ends might at first glance seem mutually exclusive, it is important to realise that both schools of thought were working towards the acquisition of *power*, either for individual or societal purposes (Haydn, 177). We therefore discern a significant

correlation between the aspirations of the empirical scientists and the esoteric alchemists.

The protean nature of alchemy is especially relevant to this thesis, as I will proceed on the understanding that the distinctions between alchemy, chemistry, hermeticism, natural magic, natural philosophy, and other 'scientific' and occult practices are blurred more often than not.[10] Principe's view supports this approach, as he observes that "The words *alchemy* and *chemistry* (in all their orthographic and grammatical variants) are used interchangeably in almost all seventeenth-century contexts", and this fluidity of nomenclature is applicable to almost all areas of occult theory and practice (8). This understanding of alchemy as an inclusive and interdisciplinary field of knowledge is substantiated by many contemporary texts. One of the more explicit vindications of this model is provided by John Baptista Porta in his disquisition on *Natural Magick* (1658), in which he draws a parallel between magic, natural philosophy, medical science, herbalism, mathematics, and other areas of learning:

> Seeing Magick … is a practical part of Natural Philosophy, therefore it behoveth a Magician, and one that aspires to the dignity of that profession, to be an exact and perfect Philosopher…. Then also he must be a skilful Physician: for both these Sciences are very like and neer together; and Physick, by creeping in under colour of Magick, hath purchased favour amongst men…. Moreover, it is required of him, that he be an Herbalist, not onely to discern common Simples,

[10] It is useful here to draw on Brian Vickers's understanding of the amorphous nature of the Renaissance occult tradition: "There are sufficient internal resemblances among astrology, alchemy, numerology, iatromathematics, and natural magic for one to be able to describe the occult sciences as forming a unified system. They all invoke a distinction between the visible and invisible worlds; they all depend on the designation of symbols relating to this dichotomy; they all make great use of analogy, correspondences, and relations among apparently discrete elements in man and the universe" ('Function of Analogy', 265).

> but very skilful and sharp-sighted in the nature of all plants…. He must be as well seen also in the nature of Metals, Minerals, Gems and Stones. Furthermore, what cunning he must have in the art of Distillation…. He must also know the Mathematial Sciences, and especially Astrologie…. Moreover, he must be skilful in the Opticks, that he may know how the sight may be deceived…. These are the Sciences which Magick takes to her self for servants and helpers; and he that knows not these, is unworthy to be named a Magician (3).

In light of this definition, the title of 'Magician' could very well be applied to "Newton, or Boyle, or Locke, or any other seventeenth-century natural philosopher [who may] have believed, dabbled, labored, or sweated in alchemy" (Principe, 4). Hawkes hones in on one of the crucial reasons for the modern (or postmodern) misunderstanding of the nature of alchemy during the Renaissance. Thus, "The alchemist did not, as the modern chemist does, conceive of the materials he studied as wholly alien to his subjective perceptions of them. Rather, alchemy assumed a unity of subject and object, so that the condition of the practitioner's soul and the course of his experiments were indissolubly linked" (145). Having made a similar point,[11] Haydn goes on to offer a more positive view of occult practice during this period, and suggests that there were obvious parallels between the work of the magician and that of the empirical 'scientist' in reaction against restrictive scholasticism:

> Two methods emerge as basic – those of magic and of 'pure' empiricism. The first adopts a passive theory of knowledge in the interests of an aggressively individualistic motive; the second employs

[11] "The occult element in the thought of these English astronomers – Dee and Thomas Digges – serves to illustrate how men of considerable scientific and intellectual stature combine … their truly scientific empiricism with an occult variety, dependent upon received, 'secret' and 'auncient doctrine'" (Haydn, 196).

> an aggressively active empiricism in the service of a humanitarian ideal. For the magicians seek to learn the *secrets* of nature largely through illumination, revelation and initiation into a body of ancient esoteric knowledge…. [The magician], holding that nature is full of the *symbols* of God, believes that it may be understood only through esoteric lore and experiment, the formulas and equations and hieroglyphs of the Pythagoreans and the Cabala, alchemy and astrology – through the correct interpretation of a body of long-established secret knowledge (176-177).[12]

The implication in this passage is that the interpreter of arcane knowledge has to be learned in various disciplines. This would suggest that the true magician belongs to the educated classes, those who were both literate and could access the growing body of printed esoteric materials.

Alchemy and 'Auctoritee'

Following a long tradition of apologetics in the history of the occult, and affirming the elitist aspect of this field of knowledge, the preface to the 1658 translation of Porta's *Natural Magick* claims that:

> I was somewhat unwilling to suffer it [the book] to appear to the publike View of all Men … for there are many most excellent Things fir for the Worthiest Nobles, which should ignorant men (that were never bred up in the sacred Principles of Philosophy) come to know, they would grow contemptible, and be undervalued. As *Plato* saith to

[12] Ingegno makes a related point in his discussion of 'The new philosophy of nature': "Thus, as far as man was concerned, magic and astrology, and the animism they presupposed, referred to the realm of the contingent and the possible, wherein nature was called to behave differently from how it would have behaved if it had been left to itself" ('The New Philosophy', 238).

> Dionysius, *They seem to make Philosophy ridiculous, who endevour to prostitute Her Excellence to prophane and illeterate Men* (1).

Some of these 'Worthiest Nobles' will be considered in more detail at a later stage, but for the moment a brief overview of their roles in the endorsement of alchemical ideas will serve to illustrate how pervasive alchemy was at this time. Although some of these men lived and worked long before the specific period which is the focus of this study, their legacy undoubtedly provided the framework for the later sixteenth- and seventeenth-century conceptions of alchemy, and their endeavours gave impetus to those who followed in their footsteps. Thus Katherine Park and Eckhard Kessler, in their consideration of 'The Concept of Psychology' in the Renaissance, point out that, "Far from fading, the influence of earlier commentators such as Thomas Aquinas, Albertus Magnus, Duns Scotus and William of Ockham continued to grow throughout the fifteenth century, as self-conscious 'schools' or *viae* of philosophers in the various universities struggled to promote and elaborate their interpretations" (461).

Albertus Magnus, born at the end of the twelfth century, was a leading figure in both secular and religious circles. He published a treatise, *Libellus de Alchimia*, in which he "proved himself to be, under the limitations of his day, a man of genuine scientific spirit" (Mercer, 33). Albertus was also a mentor to Thomas Aquinas, one of the most esteemed figures in Church history. Notwithstanding his religious fervour, Aquinas believed that alchemy is "not unlawful if it be confined to the investigation of natural causes and effects" (34).

Another principal personage of this particular era is Roger Bacon (*c.* 1219 – *c.* 1292), whose scientific enterprises contributed significantly to the

respectability of alchemical lore during the thirteenth century. Stanley Redgrove applauds Bacon as the "Intellectual originator of experimental research … [which] gave to the science of chemistry its own peculiar stamp, and ensured its steady development" (45). Bacon dedicated the third book of his authoritative *Compendium Philosophiae* to the consideration of alchemy, and defines this field of knowledge as "the science of the generation of things from elements", drawing attention to both its scientific and 'natural' aspects (Mercer, 35). Following Bacon by over two hundred years, Paracelsus (1493 – 1541) may be seen to take over the baton from his predecessor by foregrounding the practical and scientific qualities of the art of alchemy. He became one of the most zealous advocates of medical alchemy in his attempts to challenge the malpractices of his medical peers. In the process, he ensured for himself an abiding place in the histories of science, medicine, and philosophy (49).

These are only a few of the scholars of the pre-early modern era who saw value in the theories and practices of alchemy, or rather in certain aspects of the art. Shumaker pays homage to these men, and others like them, pointing out that, "During the five hundred years of its flourishing alchemy had attracted the favourable attention of Roger Bacon, Aquinas, Albertus Magnus, and many another man of distinguished intellect and achievement" (*Occult Sciences*, 169). Notwithstanding the disparity in demography and time, these are the men, for the most part from the educated classes, who significantly informed the climate of thought that obtained in later centuries. This claim is supported if one considers that it was often these men who explored and championed alternative and unconventional methods and systems of thought. These are some of the men who both set in motion and provided the driving force behind the phenomenon we call the Renaissance, with its immense appetite for knowledge and meaning.

Bouwsma confirms that:

> Various circumstances help to explain the spread of occult interests among intellectuals. One was the progress of learning about the remote past in a period when antiquity was still thought to guarantee authenticity whereas truth was attenuated by time…. Printers took advantage by producing a flood of exotic works. But even more important, perhaps, was the general hunger for the unity and order of knowledge when the new science was raising far more questions than it could answer (163).

Alchemy and the Hermetic Corpus

The assertion that the esoteric 'science' of alchemy is to be understood only by those who have the advantage of learning may be illustrated by reference to a collection of seminal occult texts, which were brought to Florence from Macedonia by a monk named Leonardo da Pistoia. He presented the manuscripts to Cosimo de' Medici, who commissioned Marsilio Ficino to translate these works into Latin. Ficino is considered by many to be the founder of Renaissance hermeticism. Indeed, Shumaker goes as far as to assert that it was by Ficino, "more than by any other single person, [that] the astonishing vogue of Renaissance magic was initiated" (*Occult Sciences*, 4). Ficino's status as an officially approved scholar lent weight to the authority of these hermetic texts, which in turn made a significant impact on the understanding and reception of occult ideas during this period.

So it was an established and renowned scholar who undertook the translation of the works attributed to Hermes Trismegistus, believed to be

the father of alchemy. Bouwsma elaborates: "Hermeticism … claimed to have originated in the writings of one Hermes Trismegistus, thought to incorporate the earliest sacred wisdom of the human race, the original theology of ancient Egypt" (161).[13] Shumaker acknowledges the significant influence of the *Corpus Hermeticum*, arguing that because of it, "the foundation was laid for an intellectual movement which was to have a profound, if intermittent, influence in the European Renaissance" (*Occult Sciences*, 201).

Frances Yates suggests that Trismegistus, who during the early modern period was believed to be an ancient Egyptian priest living around the time of the Hebrew prophet Moses, may be "the most important figure in the Renaissance revival of magic" (*Hermetic Tradition*, 18). Robert Fludd, himself a key figure in Renaissance alchemy, eulogises Trismegistus, purging his pagan heritage and reclaiming him for Renaissance Christianity:

> The excellent Philosopher *Hermes*, otherwise termed *Mercurius Trismegistus*, expresseth plainly, that he was not only acquainted with *Moses* his books, but also was made partaker of his mysticall and secret practise, as by his Sermons, which he calleth *Pymander*, a man may plainly discern, where he doth mention the three Persons in Trinity, and sheweth the manner of the worlds creation, with the elements thereof, the Word (42).

[13] Wayne Shumaker makes a useful distinction between 'Hermetism' and 'Hermeticism', suggesting that "*Hermetism* is the mystical philosophy of Hermes Trismegistus, modified of course by varying interpretations offered at different times. *Hermeticism* is a more amorphous body of notions and attitudes" ('Literary Hermeticism', 293). Referring to the broader category of Hermeticism, to which alchemy belongs, Copenhaver laments that "a naïve scientism, a learned piety, and an antiquated anthropology continue up to our own day to propagate a view of magic that makes little sense for the age of Marsilio Ficino" ('Philosophy of Magic', 80).

Notwithstanding this high praise, Yates does, however, go on to point out that the veneration with which the *Corpus Hermeticum* was received was based on a false premise, for it was proved that the works were not actually from the Mosaic era, but were compiled in the fourth or fifth century. Bouwsma clarifies that the writings "in fact reflected Hellenistic gnosticism and later Jewish materials…. Their actual origin was only demonstrated by Casaubon in 1614" (128). This, however, does not detract from the fact that the works were highly regarded and proved to be one of the main driving forces behind the renewed respectability of the occult during the Renaissance, especially after its translation into Latin in 1471,[14] and "given further authority by a Greek version in 1554" (Bouwsma, 162). Again, Bouwsma confirms that "the hermetic corpus had provided reformers who conflated antiquity with truth with another model for contemporary reform" (128). Yates rightly points out that to Ficino the *Hermetica* were nothing if not divinely inspired, radiating "a light of divine illumination" (*Hermetic Tradition*, 16). Ingegno offers further insight on this point, for he observes that "The weight of magic in [Ficino's] work shows that the metaphysical structure of the real, with its secret web of hidden links, revealed to the sage the splendour of the divine life itself, although not in its purest form, within the perceptible world" ('The New Philosophy', 238). Ficino's translation of the *Corpus Hermeticum* promoted the accessibility and dissemination of alchemical thought in the West, and, as Yates indicates, "had an immense diffusion … testifying to the profound and enthusiastic interest aroused by Hermes Trismegistus throughout the Renaissance" (17). In keeping with the idea that alchemy offered an allegorical pattern for human transformation and perfectibility, John S. Mebane avers that "Ficino himself was concerned with purifying the soul; he was fascinated by the idea that the human

[14] Burke points out that "the fact that sixteen editions of this work appeared prior to 1500 attests to its tremendous popularity" ('Renaissance World View', 99).

personality could regain its lost magical powers … he defends not only the soul's immortality, but also its essential divinity and grandeur" (18).

Esoteric Alchemy and the Power of Magic

The focus in this thesis is primarily on the esoteric philosophies and theories that informed various alchemical practices, and on the ways in which they came to influence some of the currents of thought and belief during the Renaissance. Read provides justification for this approach:

> More credit attaches to the thought and work of contemporaneous alchemists of the philosophical and mystical types. By some writers on alchemy these are depicted as the 'true adepts', to whom practical alchemy was a branch of a comprehensive philosophical system. According to this view, the experimental attempts of the adepts to transmute metals were carried out with the aim of adducing a material proof of their system (*Prelude to Chemistry*, 22-23).

Shumaker's observation resonates with the above, for he points out that, "More even than the chemical tradition, the mystical doctrine assumed wisdom in remote antiquity and the former existence of a rich esoteric literature comprehensible only to initiates" (*Occult Sciences*, 186). Thus, alchemical philosophers, in contrast to their more practically-minded counterparts, directed their efforts towards the contemplation and conceptualisation of the metaphysical principles which they believed permeated all of nature. Haydn again provides clarification of this class of occult practitioner:

> For the magicians seek to learn the *secrets* of nature largely through illumination, revelation and initiation into a body of ancient esoteric

> knowledge…. [The magician], holding that nature is full of the *symbols* of God, believes that it may be understood only through esoteric lore and experiment, the formulas and equations and hieroglyphs of the Pythagoreans and the Cabala, alchemy and astrology – through the correct interpretation of a body of long-established secret knowledge (176-177).

While these esoteric scholars also spent their time in observation and investigation of nature, their objective was much less immediately utilitarian than that of the chemists, apothecaries, and bellows-blowers or 'puffers', who were more interested in the physical manipulation of natural elements. Thus, while these latter had an undeniable part to play in the development of modern science and chemistry, the more metaphysical theorists can claim a significant place within the tradition of natural philosophy and the history of ideas. Copenhaver points out that "Philosophy in the larger sense was one subject cultivated among others in the academies, whose members were often fond of the practical side of astrology and alchemy" ('Translation, Terminology and Style', 57). Bouwsma more specifically identifies the role of Platonic principles in the history of occult philosophy, arguing: "For both Platonism and occultism, all similarities, analogies, and parallels were signs of a secret bond in a comprehensive system in which all things had cosmic reverberations, comprehended only by magi who could manipulate the forces they represented" (159). Linden, too, points out in *Darke Hieroglyphicks* that the chief characteristic of esoteric alchemy "is *knowledge* of the secrets of nature, not for the purpose of achieving dominion over nature, as with the philosopher's stone or magical elixir, but rather a disinterested, unpragmatic knowledge of the origin, composition, and secret operations of all aspects of creation" (8).

Esoteric alchemists were also interested in the practical aspects of chemical transformation, but for them the physical change was meant to provide a means of objectifying and understanding moral and spiritual transformation. Thus Hawkes points out that:

> Alchemy is the practical attempt to realise the spiritual essence, or *telos*, of matter. It assumes that the objective existence of a thing is only a representation of its ideal form. The alchemist sought to rectify this situation, breaking down and reconstituting imperfect matter in such a way as to bring it to the perfection of its natural end (152).

Given the status of the *Corpus Hermeticum* in Renaissance alchemy and philosophy, and in relation to the hopes of spiritual 'transmutation', it is significant that Bouwsma makes the point that "The Gnostic doctrine of salvation by secret wisdom in the Hermetic books was particularly attractive to intellectuals" (162). John Read also explains that alchemy was "a philosophical system which was concerned alike with the formation of inanimate substances and the still more formidable mysteries of life" (*Alchemist*, 1). Just as Jesus used parables to teach his followers the deeper truths and values of interaction with God and man, so too, these philosophers believed, was alchemical transmutation divinely infused with allegorical and analogical significance which afforded the adept an insight into the blueprint for both his own salvation and the redemption of society. Hawkes explains that "Alchemy (which stands in relation to chemistry as astrology does to astronomy) conceives of the material world as connected to the world of ideas through an intricate system of 'correspondences', which were revealed to human beings as analogical resemblances among the various levels of creation" (147). This is in keeping with Haydn's remark that "With a love of allegory inherited from medieval thought, the

Elizabethans describe again and again how the soul of man is compounded of all ranks of the graded hierarchy of the creation" (24).

This belief in the association and interaction between the individual and the larger world around him was not only central to esoteric alchemical doctrine, but was also one of the chief characteristics shaping the prevailing paradigm of Renaissance Christian humanism. Thus Mebane asserts that Renaissance humanism presumes that by imitating and co-operating with God, one's soul could be regenerated and restored to its pristine condition which God initially intended for it. But even more than this, they held that this revitalisation of the individual soul should, and must, produce the positive transformation of the external world (11).

Haydn expounds this, noting that "the more practical learning of the Renaissance Christian humanists … found its final good in the exercise of right reason in virtuous action on this earth" (xiii). This view helps us to understand and appreciate the significant correlations and reciprocations that operated between the esoteric arts and Christian humanism. Mebane recognises the symbiosis in his comment: "philosophical occultism carried to its logical extreme the humanists' affirmation of the power of human beings to control both their own personalities and the world around them" (3). We can once again appeal to Haydn for support of this view, for he states that "the occult philosophers and magical scientists had all cherished the legend of the 'Philosopher's Stone' – had envisioned the discovery of a single formula which would reduce man's search for knowledge to a principle of unity leading to the mastery of Nature" (185). Vickers makes a similar point, commenting that "in the Western occult tradition these thought patterns became the basis of sciences that professed to interpret, control, and even transform reality" ('Function of Analogy', 266).

The end of knowledge, then, is the acquisition of power. For the occultist, this power translated into dominion over the natural world, which includes man himself. Ingegno explains the relationship between the occult, knowledge and power:

> The parallel between the structure of magical action and the modality of the epistemological process thus found its rationale, as in Ficino, in the identity of the ultimate force towards which both moved, the former attempting to modify natural causality and the latter striving to attain a higher level of consciousness ('The New Philosophy', 239-240).

Thus, Trithemius – mentor to Henry Cornelius Agrippa,[15] himself a renowned occult philosopher – could assert:

> Study generates knowledge; knowledge bears love; love, likeness; likeness, communion; communion, virtue; virtue, dignity; dignity, power; and power performs the miracle. This is the unique path to the goal of magic perception, divine as well as natural (qtd. in Thorndike, *Magic and Science*, 439).[16]

However specious this confidence may seem, it must be remembered that the philosophical occultism of the Renaissance was sanctioned by a growing body of authoritative writing. Classical works were being translated and

[15] A more comprehensive discussion of Agrippa's influence in occult circles appears in the following chapter.

[16] Johannes Trithemius (1462-1516), in a letter to Germain de Ganay, 24 August, 1505, qtd. in English translation in Lynn Thorndike, *A History of Magic and Experimental Science*, 8 vols (New York: Columbia University Press, 1923-1958), 6:439. The sixteenth century books in which he Latin text appear are not available in the Bodleian Library, although they are listed in the catalogue.

printed; contemporary commentaries and treatises were being written and published by reputable scholars; and all of these printed works were reaching a larger audience than ever before. With the proliferation of alchemical and other esoteric literature, it follows that there was a corresponding promulgation of the concepts and theories of philosophical occultism, much of which was concerned with the composition, description, and operations of the natural world. Knowledge of how the cosmos was constituted and an understanding of how and why the various parts of the cosmos interacted and functioned as a whole was believed to hold the key to all wisdom. This wisdom, in turn, would lead to spiritual growth and the transformation of human society.

Apparently dismissing the importance of 'power', Francis Bacon,[17] who, according to Haydn, "has a weakness for the terminology, the imagery and the lore of the alchemists" (264), states in his 'Author's Preface' to *The Great Instauration*:

> I would address one general admonition to all; that they consider what are the true ends of knowledge, and that they seek it not either for pleasure of the mind, or for contention, or for superiority to others, or for profit, or fame, or power, or any of these inferior things; *but for the benefit and use of life*; and that they perfect and govern it in charity (11-12).[18]

[17] Francis Bacon will be discussed in more detail in the following chapter.

[18] This is from the Latin, *Fransiscy de Verulamio, summi Angliae cancellarij instauratio magna*: "Postremo omnes in vniuer / sum monitos volumes, vt Scientiae veros fines cogitent; nec eam aut animi causa petant, aut ad contentionem, aut vt alios despiciant, aut ad commodum, aut ad famam, aut ad potentiam, aut huiusmodi inferiora, sed ad meritum, & vsus vitae, eamque in Charitate perficiant, & regant".

Linden articulates particularly well this sentiment in relation to alchemy, which became:

> A vast religious and philosophical system aimed at the purification and regeneration of [human] lives. But in addition to being an internal, salvationist process, esoteric alchemy also set forth a worldview, which … placed special emphasis on the unity of all things as created by God and the harmonious relationship between the greater world and the lesser world of man (8).

The belief in the correspondence between the macrocosm of the universe and the microcosm of man was integral to the alchemically influenced understanding of how the world worked, the place and role of people in that world, and the relationship of people to nature. An understanding of this belief as one of the first principles of alchemical theory helps to inform our appreciation and interpretation of early modern alchemy. It also puts into perspective the alchemists' conviction that all matter – animal, plant, inorganic, and stellar – was infused with one spirit, or essence. Copenhaver explains:

> [The] *magus* who understands the powers of the stars can tap forces 'hidden and stored away in nature', secret or occult powers that produce the characteristically 'astonishing' effects of magic, the same powers that lent their name to Agrippa's most famous book, *De Occulta Philosophia* ('Astrology amd Magic', 265).

It was their attempts to discover and harness this latent power in nature that animated the alchemists' search for the philosopher's stone and the

universal elixir, at both a practical and a metaphysical level. Bettina Knapp can thus aver that:

> Alchemists believed in the original unity of matter and in the possibility of its transformation and differentiation…. A parallel existed between their scientific activities and their metaphysical beliefs; as metals could be purified, so humankind could be elevated from dross to its spiritualized essence…. Once opposing polarities were welded together, everything within the cosmos formed a cohesive whole, enabling a *renovatio*, a renewal, to take place (2).