Two Scientific Manifestos:
Discourses on Science in
Jonson's *The Alchemist* and Marlowe's *Doctor Faustus*

by

J. B. Siedlecki

B.A., The University of Alberta, 1985

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS
in
INTERDISCIPLINARY STUDIES

© Basia Siedlecki, 1997

THE UNIVERSITY OF NORTHERN BRITISH COLUMBIA

March 1997

All rights reserved. This work may not be reproduced in whole or part, by photocopy or other means, without the permission of the author.
Abstract

The Alchemist, by Ben Jonson and Doctor Faustus, by Christopher Marlowe have weathered considerable critical consideration and have been interpreted through the filters of a wide variety of theoretical approaches. I chose to examine the plays from a New Historical perspective. By discussing how the plays were received, and what milieu they were launched in, I hoped to learn what purpose they had, what function they carried out in their context (besides that of entertaining crowds of paying theatrical patrons). Both these plays were first published and performed in England near the cusp of the seventeenth century. They were presented in an intellectual milieu in which the idea of science was still a work in progress, a matter under consideration. It was a new social, political, and theological power, whose effects were suspiciously and cautiously observed by the authors of these two plays. A great deal of discourse was produced concerning the roles of science in relation to the existing intellectual, political, religious, and social structures, and the mechanisms available for limiting and controlling these roles. The discursive activity surrounding the philosophical and practical integration of science into the late-sixteenth- and early-seventeenth-century English social, political, and intellectual milieu was carried out through a variety of media. One of these media was the theatre. These two plays functioned in their milieu as manifestos of sorts, statements of policy and cautionary advice. They advise a sceptical approach to science. They point out its subversive qualities: how it undermines theological thought and function, how it encourages political insubordination, democratic power distribution, and republicanism, and how it inverts established social order. Science, in other words, is functioning as an autonomous and potentially seditious power. Marlowe and Jonson’s plays, though distinct in tone and
style, are both intensely concerned with science, and both caution against accepting it wholeheartedly into the English renaissance world view.
# TABLE OF CONTENTS

**Abstract** .................................................................................................................... ii

**Table of Contents** ........................................................................................................ iv

**A Note on Orthography** .................................................................................................. 1

**Introduction** .................................................................................................................. 2

**Doctor Faustus, the Alchemist, and Science** ................................................................. 2

**Science in the Renaissance** .......................................................................................... 6

**The Occult Sciences in England** .................................................................................... 7

**Literature and Politics: New Historicism** ..................................................................... 11

**Chapter Two: Theology, Demonology, and Science** .................................................... 15

**Religion and Science** .................................................................................................... 15

**Faustus and Theology** ................................................................................................. 18

**The Alchemist and Religion** ........................................................................................ 25

**Chapter Three: Politics and Science** ............................................................................ 40

**Science and Politics** ...................................................................................................... 40

**The Brief and Tragical Political Career of Doctor Faustus** ........................................... 43

**Alchemy and Politics** .................................................................................................... 52

**Chapter Four: Science and Society** .............................................................................. 63

**Science and Society** .................................................................................................... 63

**The Social Transgressions of Faustus** ........................................................................... 65

**Discourses of Social Transgression in The Alchemist** ................................................... 70

**Gender and Science** ...................................................................................................... 76

**Doll Common's Uncommon Influence** ......................................................................... 79

**Making Mrs. Right: A Wife for Faustus** ....................................................................... 83

**Chapter Five: Conclusion** ............................................................................................ 85

**Notes** .............................................................................................................................. 88

**Works Cited** .................................................................................................................. 100
A Note on Orthography

My primary texts both have modernized and standardized spelling. This will be reflected in quotations from either text. My version of Bacon's works also has updated and standardized spelling. However, some of my other quotations are from secondary sources which reflect the original spellings. I have left these as I found them.
Introduction

Doctor Faustus, The Alchemist, and Science

In this paper I will argue that Doctor Faustus and The Alchemist are political expressions, manifestos of sorts, cautionary tales exposing science as a threat to religious, political, and social structures in renaissance England. I have chosen these two plays because they originated in roughly the same era, and because, although they are very different in tone, structure, and style, they express similar points of view. I will discuss them from a New Historical perspective, treating them as historical documents actively participating in the discourses of their era. Both reflect a deep distrust of science, of how science acquires authority, and of how it functions as an autonomous entity in the late-sixteenth- and early-seventeenth-century English world. Both plays deal with patently unworthy characters who are socially elevated through their association with science. Both plays functioned as interlocutors, participating in a larger, societal discourse concerning science, which is treated as a new concept in a philosophically stable world. Doctor Faustus and The Alchemist both contribute to this larger discourse by cautioning against the wholehearted acceptance of science into the established philosophical schema of renaissance England; they expose the potentially seditious and disruptive consequences and influences of science and so respond to those social elements which chose to embrace the new philosophy.

Doctor Faustus was first performed in 1593 or 1594, shortly before Christopher Marlowe’s death. It was subsequently revised and censored a number of times. There are
currently two versions of the play, dating from 1604 and 1616 (known as the A text and the B text respectively). Even in its sanitized form, the play is subversive, though the actual philosophical affiliation of it is not immediately apparent. *The Alchemist* was first performed around 1610. By this time, Elizabeth I had been replaced by James I, and although the court was markedly different, and had lost much of its literary and dramatic quality, the basic social, religious, and political issues were still the same. Social status, and the privileges of hereditary gentry were a concern in light of a growing wealthy merchant class. Colonial profiteering was also an area of governmental concern. The struggle between the Protestant and Catholic churches over the souls of the English was raging throughout the late-sixteenth and early-seventeenth centuries. Both authors had ties with both the Catholic and Protestant churches.

*Doctor Faustus* is essentially a cautionary play. It warns that science and religion are not compatible. Francis Bacon was arguing, at the time, that empirical thinking reinforced religious zeal. In *Doctor Faustus*, however, the effect is the opposite. Science focuses Faustus's attention on the paradoxes inherent in religion, and leads him to disqualify it as a valid subject to occupy his genius. A process of empirical reasoning leads him to trade his invisible and ineffable soul for a clear and well defined scientific goal: the mastery of nature. It also leads him to question the very divinity against which he is rebelling. His logically and empirically defined world can contain devils and demons, yet lack a hell or heaven. Science eventually leads Faustus to atheism, and finally to damnation.

*The Alchemist*, by Ben Jonson, is more concerned with how religion functions as a secular power. The three cozeners (confidence artists), Doll Common, Subtle, and Face,
appropriate the outward signs of religion and apply them to their pretended science in
order to gain access to the authority vested in religion in their society. In semiotic style,
they appropriate the discourse, structure, and function of religion and make it their own.
Their highly stylized alchemical jargon invokes the cryptic Latin catechism of the Catholic
church. Subtle’s robes, ceremonies, and demeanor are reminiscent of that of a priest. The
cozeners appropriate the moral positioning of the church, by feigning success at their
experiments. They substitute alchemy for religion as a source of comfort during the
plague. The cozeners thus use the science of alchemy to appropriate the social and
political position of the church, to gain authority, and to enable their confidence games.

Both plays express some anxiety about the political activity enabled by science. In
Doctor Faustus, the title character uses science to generate political power for himself.
Although his plans are ambitious and spectacular, he does not achieve the grandeur he
imagines. Nonetheless, despite his base birth, through his association with science, he
gains access to some very powerful people, and though he might effect real change, he
adopts a toadying personality and becomes more an entertainer than a politician. Science
does, however, grant him access to enormous power, and this, without the requisite
hereditary status, was a seditious position in the late sixteenth and early seventeenth
centuries.

In The Alchemist, the cozeners create a microcosmic republic inside Lovewit’s
house generating sedition as an analogy, a metaphor, an in reality. An elaborate conceit
sustains the republic throughout the play. It relies on isolation to maintain its
independence, and runs into a series of problems when the outside world intrudes on the
internal functions of the republican government. Nonetheless, the “venture tripartite” (the
ruling body consisting of Doll Common, Subtle, and Face) negotiates its position in its international milieu, subsidizing religious sedition in Holland, minting Dutch money, and planning a strategic marriage between an English woman and a Spanish lord. It is clearly evident that the small republic is effective and dangerous positioned as it is in the Blackfriars district of London.

Socially, science in both plays enables transgression of boundaries which were considered essential, divinely sanctioned, and immutable in late-sixteenth- and early-seventeenth-century English society. Faustus uses science to ennoble himself, to participate in a social milieu to which he was not born. In The Alchemist, the subversion is more insidious. It follows an alchemical metaphor, transmuting each of the cozeners into a more noble person. Each of their gulls (marks) is likewise transmuted, ennobled, even those that do not believe in alchemy. The alchemical metaphor further subverts social standards and organization by dictating an egalitarian relationship between the three members of the “venture tripartite.” The empowering of Doll Common is directly related to her position in the alchemical metaphor. She is indispensable and equal. This adjustment of gender relations would have been striking and uncomfortable for an early-seventeenth-century playgoer. The play clearly cautions that science has the potential to subvert social order.

Thus the social, political, and religious power bases stood to be subverted by science at this time. Francis Bacon, the spokesman of the empirical movement, recognized the power of the discipline, and claimed that science could be harnessed in support of the state and the church. A scientific education would produce more loyal citizens and more moral people. These plays however, reject Bacon’s reasoning and
illustrate the destructive potential of science. They caution against accepting science and scientific thought. They argue that science is politically, socially, and religiously subversive, a threat to the status quo (which was recognized as divinely sanctioned).

Science in the Renaissance

The Elizabethan and Jacobean world was perceived as an organic composition, resonating with harmonies and counterpoints. The macrocosm reflected the microcosm and vice versa. The idea of finding natural paradigms affirming social, political and theological ideologies then, was not only expected, but was in fact, a central tenet of any study of the natural world. The natural world itself was much more loosely defined than a modern reader would be willing to accept, and included the Judeo-Christian creation story, mythological creatures referred to in texts surviving from the Classical Greek period, demons and their works, and a plethora of monstrous creatures and human hybrids said to reside on mythological islands and in newly explored and colonized areas. The study of these “natural” phenomena was an evolving occupation in Elizabethan England, known as natural philosophy, the precursor of many of today’s scientific disciplines. Necessarily, this field of study was intimately connected with and operated to support the interests of definite social, political, and religious discourses.

Natural philosophy, or science, operated as a Foucauldian regime of power, a discourse that generated its own authority and endorsed a specific distribution of power and authority within the society that generated it (Foucault 1144). Science in Elizabethan England was a work in progress, an area of dispute, a focal point for discursive intersection. Through active political and theological negotiation, science became a
repository of authority. The logic of micro and macrocosmic relativity dictated that the natural world was a source of analogical truth. There was a deeply embedded belief in the popular psyche that the universe was harmonious, structured, directed, and purposeful. Francis Bacon made a career of negotiating social, theological, and political space for the new empirical philosophy. Nature, he held, was an embodiment of God’s intentions for the world (Advancement 193). It thus ought to contain paradigms for all human interactions and situations. Nature thus provided models for gender, race, and class relationships, all characterized as distinctly ordered and hierarchical. Elizabethan scientists found attributes of the status quo in natural paradigms. They did not perceive their own social, theological, and political biases, and so saw their contributions as empirical observations rather than inscriptions.

The Occult Sciences in England

The natural world, in the late-sixteenth and early-seventeenth centuries, was said to encompass both those things that were readily observed, and those which though they had no evident explanations, functioned with some regularity. Some of these phenomena were real, and some apocryphal, mentioned in classical literature and repeated enough without verification that they came to be thought of as true (Copenhaver 397). Among these were the magnetic properties of the lodestone¹, the power of flight that witches were said to possess², the ability to communicate with the spirits of the dead (necromancy), the transformation of substances into gold (alchemy), and the effects of the alignment of planets on people (astrology). Reginald Scot³, listed some more of these effects in 1584: “that a drought of drinke should so overthrow a man, that never a part or member of his
bodie should be able to performe his dutie and office,” that a remora fish (about 10 centimetres long) can stop “a mightie ship with all hir loade an tachling, and being also under saile,” and that a murdered man “reneweth bleeding; at the presence of a deere freend, or of a mortall enemie” (qtd in Easlea 23). These latter “natural phenomena” were labelled occult (or natural magic)(Wilson 87-8). Though constituent parts of the natural world, they were not considered available for human inquiry. The fallen angels though, the demons, took with them from heaven knowledge of all natural philosophy, and thus could manipulate these phenomena (Clark 223). Stuart Clark explains:

> Again in so far as his preternatural powers as an agent were concerned, demonologists often compared the devil with an astonishingly knowledgeable and adept scientist. They portrayed him as someone who, in addition to having mastery over local motion, specialised in manipulating the secret properties of nature and the hidden causes of things. (224)

The devils though, were not capable of performing miracles (unnatural events), but specialised rather in illusion (mira, as the natural correspondent to a miracle was called), in manipulation of forces that were patently natural, as ordained by the church and by science.

Francis Bacon repeatedly attacks the study of alchemy in Of the Advancement of Learning, claiming that it “had better intelligence and confederacy with the imagination of man than with his reason” and that it “pretendeth to make separation of all the unlike parts of bodies which in mixtures of nature are incorporate” (31). Yet, despite Bacon’s objections, alchemy was very much a part of mainstream science in Elizabethan and Jacobean England. Dr. John Dee, for instance, played a variety of roles in the court of
Queen Elizabeth (and is said to be one of the models for Marlowe’s Doctor Faustus). In 1564 he already served as the court astrologer and mathematician, and was appointed to the concurrent post of “Royal Adviser in mystic secrets” (Bassnett 63). His expertise extended to the fields of astronomy, alchemy and cartography, in fact, he participated in the preparation of nautical charts for the voyages of Sir Martin Frobisher and Sir Francis Drake (Bassnett 63). In this passage, Pamela Smith discusses the position of alchemy in Elizabethan and Jacobean England in the context of modern historical studies of alchemy in the sixteenth and seventeenth centuries:

the work of Eugenio Grin, D. P. Walker, Walter Pagel, Frances Yates, and Paolo Rossi many years ago made it clear that Renaissance alchemy, and the hermetic philosophy that informed it, contributed much to the habits of mind and practice that formed early modern natural philosophy. Through their work, and that of a generation of historians whom they influenced, alchemy has consequently come to be viewed not as having been antithetical to the formation of science but, rather, as fundamental in shaping modern science and culture. (Smith 2)

Alchemy was like any other field of natural philosophy. It dealt, essentially, with natural magic and the manipulation of chemical substances (usually with the aim of making gold). It was not a marginalized field of study, but rather was embedded in the institutions of education and government. Mordechai Feingold describes the academic career of John Dee, for many years an alchemist at the court of Elizabeth I: “Dee, who matriculated at St. John’s college in 1542, almost certainly spent much of his time at Cambridge in the study of alchemy and astrology” (80). Feingold explains that though it was not officially
recognized, the study of alchemy played a significant role in sixteenth-century English higher education:

Additional evidence concerning the attentiveness of the university officials to the interest in the occult sciences is to be found in the large number of questions relating to the occult approved each year by convocation for disputation. There exists an uninterrupted succession of questions dealing with astrology, alchemy, and magic. The topics range from general questions about the lawfulness of such studies and whether they are sciences at all, to such narrow topics as the possibility of transmuting base metals into gold and of using spells to cure diseases. Frequently the respondents were expected to argue against the occult sciences, thus reflecting a general cautiousness on the part of the university officials and their hesitance to allow a relative laxness to extend into the important and widely attended public exercises in July. But occasionally some freedom for divergence was allowed and the respondents were not categorically ordered to refute the tenets of the occult studies. (78)

In fact, it was not until 1619 that the use of magic was officially prohibited to professors at Oxford (Feingold 78). It was doubtless the enthusiasm for the occult sciences that lead James, Lord Ogilvy to send a letter of caution to his grandson in 1605, telling him that:

And seeing, now a days, many young scholars give themselves curiously to understand magick and necromancy, whilk ar the greatest sins against God that can be, and has been the destruction of both body and soull of many and their houses, I will beseech you in the name of God never to let that
The letter indicates a basic anxiety about participation in investigations and manipulations of natural phenomena that were supposed to be proscribed for human beings. It also however, indicates that these phenomena were a part of the lively discursive milieu at English institutions of higher learning and an accepted part of scientific practice.

The confusion surrounding the status of alchemy is due partly to modern interpretations and representations of the discipline, and partly to the less legitimate brands of alchemy co-existing in the late-sixteenth and early-seventeenth centuries. Roslynn Haynes recognizes three distinct historical styles of alchemical practice:

the charlatans, who deliberately deluded others about their ability to make gold but were not themselves deceived; the “puffers,” or laboratory assistants involved in the practical problems of making gold but not yet successful in the art; and the adepts, scholarly alchemists who understood the secret language and who really believed that they knew, or were about to learn, the secret of transmutation. (11)

Whatever their status though, alchemical practitioners were a highly visible and easily recognized group.

Literature and Politics: New Historicism

For the purposes of this examination, I will blur the traditional lines between text and context somewhat. The separation has always been problematic. People’s actual experiences are often quite different from what cultural discourses dictate. The difficulty
of reconstructing historical cultures necessitates attention to all aspects of those cultures, and in this case, the particular function of literature. In an article entitled “The New Historicism in Renaissance Studies,” Jean Howard explains:

What is important is how and why cultures produce and naturalize particular constructions of reality: what contradictions such constructions neutralize or expose, what economic and political ends they advance, what kinds of power relations they display. Literature is one of many elements participating in a culture’s representation of reality to itself, helping to form its discourse on the family the state, the individual, helping to make the world intelligible, though not necessarily helping to represent it ‘accurately’. (29)

Literature, then is a site of what Donna Haraway would call “situated knowledge” (188); an admittedly biased and politically motivated discursive position, but a relevant, valid and potent one. The exclusion of literature from the realm of historical “fact” has ascribed to literature a problematic representative function. New Historicists, on the other hand, view literature as a cultural force, among others, active in the semiotic expression and simultaneously construction or subversion of culture, social relationships, and political hegemonies.

Intertextuality then, describes the ways that various discourses, textual and non-textual, interact to create social and political realities. Jean Howard explains:

Literature is a part of history, the literary text as much a context for other aspects of cultural and material life as they are for it. Rather than erasing the problem of textuality, one must enlarge it in order to see that both
social and literary texts are opaque, self-divided, and porous, that is, open to the mutual intertextual influences of one another. This move means according literature real power. Rather than passively reflecting an external reality, literature is an agent in constructing a culture's sense of reality. It is part of a much larger symbolic order through which the world at a particular historical moment is conceptualized and through which a culture imagines its relationship to the actual conditions of its existence. In short, instead of a hierarchical relationship in which literature figures as the parasitic reflector of historical fact, one imagines a complex textualized universe in which literature participates in historical processes and in the political management of reality. (28)

In other words, literary fact is a part of historical reconstruction. Literary fiction is a semiotic signifier, a symbolic representation of an active discursive position. The historicity of a literary text is situated in its discursive position in relation to the period in which it is produced.

The potency of literary texts as politically active discursive instruments in late-sixteenth-century England is testified to by the practice of censorship as well as publication. All the major political players in Europe had participated with vigor in both practices since the late fifteenth century. Throughout Europe, the popularization of the printing press coincided with rising rates of literacy among all classes. The popular press catered to the less educated, and booklets were published on a wide variety of topics:

"from astrology and veterinary medicine to cooking and book-keeping. The important point about these works was the absence of technical jargon, and obscure philosophical
rhetoric” (Rossi 170). By 1500, close to twenty million books had been published in Europe, and the secular and religious powers had taken notice. The close affiliation of secular leaders with the various brands of Christianity made heresy a political affair, and a concerted effort was made, by both the Catholic and Protestant churches to control the printed medium:

The first laws were enacted in Germany, at Cologne (1478), and Mainz (1485). Successive popes also sought to control the circulation and reading of this rapidly growing mass of books; decrees were issued by Sixtus IV (1479), Innocent VIII (1487), Alexander VI (1501), and Leo X (1515, 1520). After Luther, the secular authorities feared heresy, not only as a corrupter of souls but for the civil unrest it might provoke. (Rossi 150)

Many towns had their own censorship laws at various stages. A whole series of lists of prohibited books were issued, and many of the newly printed books were burned. In England, a history of censorship existed by the time Marlowe and Jonson were writing. “Henry VIII published the first English list of prohibited books and there followed a series of laws by Henry, Edward VI and Mary” (Rossi 150). Some of the censorship was in itself a brand of political posturing rather than a real attack on actual books. The Catholic Congregation of the Index, for instance, “banned the printed catalogue of the libraries of Cambridge and Oxford” in 1601, without, I suspect, actually expecting the catalogues to disappear from public use (Rossi 154). Significantly, in 1599, the Bishop of London and the Archbishop of Canterbury ordered Marlowe’s translation of Ovid to be publicly burned (Keefer xxii).
Chapter Two Theology, Demonology and Science

Religion and Science

The relationship of natural philosophy to theology by the mid-sixteenth century was essentially dictated by the Reformation. When Martin Luther posted his 95 theses, he transformed the monologue of Christian religious discourse into a dialogue, and shortly into a heteroglossic exchange. The Catholic church needed to consolidate its position in relation to the new interlocutors. This was the purpose of the Council of Trent. The Catholic church had to reorganize a doctrinal structure that resembled a loose association rather than a monolithic institution and develop a view of the natural world that would support this institutional dogma. The structure in place in the middle ages for instance, allowed that each religious order could interpret the natural world to justify its particular doctrinal position (Martin 109). Where the Jesuits saw strict hierarchy, the Franciscans saw co-operation and a sharing of resources. When the council finally did meet intermittently between 1545 and 1563, one of the most pressing issues was to establish a natural order that would affirm the Catholic church as the true representative of God on Earth. The Catholics found themselves clearly ahead of the Protestants in terms of the number of miracles associated with the church. This was interpreted as God’s affirmation of the correctness and truth of the Catholic doctrine. The documentation of miracles, then, became an important issue, and with it, the proper definition of miracles, as opposed to natural phenomena. Thus, establishing an orthodox natural philosophy, against which
supernatural phenomena could be contrasted became a stated goal of the church at the Council of Trent:

Since miracles were defined as events caused directly by God that superseded or violated natural processes, nature itself had on this view to be seen as governed by firm and unalterable regularities: miracles were possible only if there were natural regularities to violate. Catholic orthodoxy therefore encouraged a knowledge of nature that stressed order and intelligibility, rather than disorder and caprice. (Dear 123)

Not only, then, did the church have a vested interest in establishing natural orthodoxy, but also in basing this orthodoxy in a philosophy of reason. In this pursuit, both the Reformation and Counter Reformation agreed—without a stable scientific paradigm, all else was speculation.

The whole of creation, and in fact the Creator, were seen as connected through paradigm; they were analogies of each other. Johann Kepler, an admirer of Copernicus, found flaws with the latter’s work because Copernicus’s spherical model of the movements of heavenly bodies did not account for discrepancies of magnitude, and failed to reflect the nature of the Trinity. In “The harmonic nature of the Universe,” he proposes instead a rectilinear model because he fears that if we do not accept his model: “we shall be driven to admit that God acted arbitrarily in the universe, even though perfectly good rational procedures were open to him” (206-7). Kepler recognizes a basic logic operating in the universe, driving not only all of creation, but motivating the Creator Himself. Baconian scientific method was highly dependant on this notion of harmony. The organization of science reflected that of the legal system, which reflected that of the
natural world, which reflected that of science, which reflected that of social hierarchies, etc. (Martin 112-113). The analogies were essentially a matter of scale, and indicated an universe of interconnectedness, as Maurice Slawinski indicates:

On the one hand, everything in nature—'God's book'—had meaning. On the other, that meaning resided not in the single object or phenomenon, but in a chain of associations, similarities, and contraries which bespoke pattern, order and harmony. (86)

In other words, everything, including God, operates basically in the same manner. The role of science is to discover these analogical harmonies (the laws of nature).

According to the empiricists, these patterns or harmonies could be discerned, if only enough information were gathered. Empiricism was thought of as a mechanical, objective process, obvious and natural, devoid of bias or interpretation. It was the project of sixteenth- and seventeenth-century science to gather enough data to discern God's intentions in the natural world, to discover patterns, and thus to regain some semblance of prelapsarian control over the natural world. This project, and its attendant philosophy was focused through its strongest proponent, Francis Bacon. Bacon, a contemporary of Marlowe and Jonson's, was already influential in the court and councils of Elizabeth I during Marlowe's lifetime. Although his most well known publications were not to appear until the early years of the seventeenth century, he was already voicing his opinions and lobbying for educational reform during his early tenure in the House of Commons (to which he was elected in 1584). Bacon's project of empiricism thus, was very much a part of the discourse concerning science when both Doctor Faustus and The Alchemist were first written and performed.
Faustus and Theology

The relationship between science and religion seems at first glance equivocal in Marlowe’s *Doctor Faustus*. Faustus turns from religion to science, seemingly advocating atheism. Simultaneously, there are blatant and heavy-handed attacks on Catholic dogma and the efficacy of Catholic praxis throughout the text, implying a Protestant bias. However, Faustus himself is educated in Wittenburg, Luther’s alma mater, and his story is one of arrogance and defiance in the face of established codes of conduct and religious practices, and of an inordinate valorization of empirical and personal truths (these qualities were ascribed to Protestants by Catholics). His damnation then implies a bias in favour of the Counter-Reformation⁹. Underlying this dogmatic maze, however, is a cautionary tale. Science, is ultimately implicated in the fall of Faustus; the modes of thought learned in the pursuit of natural philosophy prove his undoing as he applies them to the sacred realms of theological thought and uses them to abnegate his association with morality and ethics. The tale warns that science is not compatible with religion. It is not, as some would have it, a means of reinforcing or substantiating faith. Science is a usurper of faith and organized religion, a destructive theology of greed and power, a tempting fallacy.

*Doctor Faustus* was the object of much censorial attention because of its perplexing, blasphemous, and sometimes subversive theological insinuations. The play is not blatantly oppositional, but does scrutinize the basic Calvinist (official and orthodox) doctrine of predestination. It subverts through orthodoxy, feeding on the Protestant angst about being predestined to damnation. Faustus is either an individual with free will, choosing to take up with the devil, or he is predestined to damnation. Was Faustus
damned before he pledged his soul to the devil? Was Faustus destined to make his unholy pact? Orthodox Calvinism held that Faustus was predestined to act as he did, and was never one of the chosen who will be saved. His struggle throughout the play however, stresses his inner turmoil, and the process of decision. The two ideas are thus juxtaposed.

Marlowe allegedly wrote the play based on the English Faustbook, first published in May, 1592\(^{10}\), although the legend had been popular throughout Europe since the 1530s. The Faustbook was heavily moralistic, and Marlowe chose to strip the story of much of this dogmatic overlay. After Marlowe’s death in 1593, the play was performed and revised by the Lord Admiral’s Men from 1594 until 1597 (Keefer xii). In 1602, it was revised by William Birde and Samuel Rowley. These two men, and others that followed substantially reduced the interrogative qualities of the play as well as its Calvinist overtones, and reapplied a moralistic superstructure. In 1606, the Act of Abuses “imposed heavy fines for profane references to God in stage plays” (Keefer xiii), motivating further revisions and censoring. The theological polemic voice of the play was substantially muted\(^{11}\) after this revision, but the underlying caution was still abundantly evident.

Faustus’s identity as a scientist is clearly established early on in the play. His intellectual journey through the various academic disciplines to the occult sciences is traced in the opening passages. The chorus in the Prologue tells us that he starts his academic career as a student, and later teacher, of divinity: “So soon he profits in divinity, / The fruitful plot of scholarism grac’d, / That shortly he was grac’d with doctor’s name,” (Marlowe Prologue 15-7). In his opening monologue he discusses all the fields of inquiry he has pursued, rejecting each for its intellectual shortcomings. Like Francis Bacon, he
examines the ends and purpose of each discipline (Bacon, Advancement 87-116). He rejects his study of Aristotle’s works by asking rhetorically, “Is to dispute well logic’s chiefest end? / Affords this art no greater miracle?” (Marlowe 1.1.8-10) and then, assuming a positive answer, decides “Then read no more, thou hast attain’d that end.” (Marlowe 1.1.10). He tells of his worldly success as a physician, yet rejects this discipline as well as inadequate. Faustus assumes that the purpose of medicine must be more than just to prolong life. He says to himself, “Couldst thou make men to live eternally, / Or being dead, raise them to life again, / Then this profession were to be esteem’d.” (Marlowe 1.1.24-6). Medicine then, is not for Faustus. Law, he claims is a field of study that “fits a mercenary drudge / Who aims at nothing but external trash —” (Marlowe 1.1.34-5). Divinity, he decides, is the best. However, he perceives a basic fallacy in theological discourse which was, in the late sixteenth century, a point of much dispute. “The reward of sin is death” (Marlowe 1.1.40) he explains, yet “If we say that we have no sin / We deceive ourselves,” (Marlowe 1.1.43-4), therefore, “we must die, an everlasting death” (Marlowe 1.1.47). Here Faustus has applied the logical structures of natural philosophy to the study of divinity. Una Ellis-Fermor goes so far as to assert that Faustus’s God is “a scientific law of sin and retribution, inevitable in its workings,” (77) and can be characterized as “pitiless, just, mechanical and unimaginative” (78). His approach to theology has transformed his life into “a game at which man must be caught out sooner or later because it is implicit in the rules of the game that he should fail sooner or later” (Ellis-Fermor 77). The rules are binding, as natural laws bind. This train of thought leaves Faustus discouraged, and leads him to find an alternative field of study which allows him more control over the natural laws that seemingly limit all aspects of his
life, and for this he turns directly to the occult sciences. “These metaphysics of magicians
/ And necromantic books are heavenly!” (Marlowe 1.1.50-1) he exclaims in genuine
intellectual revelation.

As I explained earlier, the notion of nature, in the late-sixteenth and early-
seventeenth centuries, encompassed a wide range of phenomena. The ultimate goal of
science, both the Baconian and the occult brand, was to understand fully, so as to control,
nature. Faustus anticipates that the occult science of demonology will give him control of
“All things that move between the quiet poles” (Marlowe 1.1.57), in other words, of all of
nature. His assumption is later confirmed by the Evil Angel, who encourages him:

Go forward, Faustus, in that famous art

Wherein all nature’s treasury is contain’d:

Be though on earth as Jove is in the sky,

Lord and commander of these elements! (Marlowe 1.1.75-8)

After signing his contract with Mephastophilis, he confirms the devil as the superior
scientist by asking him for three books, one explaining “all spells and incantations, that
[he] might raise up spirits” (Marlowe 2.1.167-8), another listing “all characters and planets
of the heavens, that [he] might know their motions and dispositions,” (Marlowe 2.1.170-
3) and finally, one that describes “all plants, herbs, and trees that grow upon the earth”
(Marlowe 2.1.175-6). All three are basically scientific texts, books dealing with the study
and control of natural phenomena.

In a later scene, Faustus, after contemplating the irrevocable finality of his
damnation, turns to Mephastophilis and asks to dispute again “divine astrology” (Marlowe
2.3.34). The disputation is basically a lecture, delivered by Mephastophilis, on astronomy.
In answering Faustus’s questions, he describes a cosmology common in the late-sixteenth and early-seventeenth centuries, one that is basically a reworking and simplification of the Ptolemaic model. Interestingly, though the devil was supposed to embody misinformation, Mephastophilis describes a universe that is in keeping with the cosmology sanctioned by most clergy in the later part of the sixteenth century. Early rumors of Copernicus’s theories led Martin Luther to repudiate them in 1539, when he is quoted as saying: “People gave ear to an upstart astrologer who strove to show that the earth revolves, not the heavens or the firmament, the sun and the moon … This fool wishes to reverse the entire science of astronomy” (qtd. in Khun 191). Luther was followed by a cadre of academic Protestants opposed to Copernicanism on scriptural grounds. The Catholic church was a little more cautious, rejecting the theories on scriptural grounds, but not making them an official heresy until 1610 (Khun 192). Mephastophilis not only describes the official, heliocentric universe to Faustus, but later in the play actually takes him to personally, empirically experience the “secrets of astronomy” (Marlowe Chorus, 3, 2). From a chariot drawn by dragons,

He views the clouds, the planets and the stars,
The tropic, zones, and quarters of the sky,
From the bright circle of the horned moon
Even to the height of primum mobile;

(Marlowe Chorus 3,7-10)

So not only are we told that the official world view is correct, we are also informed that the issue of heliocentricity has been resolved through objective empirical observation. The devil thus affirms the contentions of the church.
Is the devil then telling the truth? If so, it would be uncharacteristic for one commonly known at the time as the Prince of Lies. The devil was acknowledged a master of illusion\(^\text{15}\). Is the church’s vision of the universe incorrect then because it is sanctioned by the devil? These issues are equivocal in the play. The one certainty is that the devil does exist, and interacts with humans. As I mentioned earlier, a late-sixteenth-century natural world included demons and devils. With the fall from heaven, they became part of the natural earthly landscape. God, on the other hand, was a matter of faith, an unnatural or supernatural denizen of another, unearthly world.

In *Doctor Faustus*, the title character subjects these notions to the scrutiny of his logic, and, as he is wont to do, distends their meaning to what he perceives as a natural conclusion. In the world of Doctor Faustus, demons certainly do exist, the coexistence of God or the afterlife however, does not follow from that certainty\(^\text{16}\). He tells Mephistophilis, with some bravado, “I think hell’s a fable” (Marlowe 2.1.128). The devil, rather than presenting himself as proof of the existence of hell, calls on the authority of empirical evidence when he replies, “Ay, think so still, till experience change thy mind” (Marlowe 2.1.129). Faustus’s atheism would have been shocking in Marlowe’s day, not only a theological, but also a political and criminal transgression (Marlowe was well aware of this, himself, having skirted charges of atheism and treason\(^\text{17}\) for years). The idea that the atheism was the result of the same basic logical thought process that lead Faustus to the study of the occult sciences was not lost on late-sixteenth-century English audiences. The causal progression from empiricism, through arrogance to atheism and damnation is clearly laid out in the play. It posits a linear progression encompassing science and
theology which directly engages that of the budding empirical movement. Francis Bacon summarizes the opinions of the supporters of empirical thought well:

And as for the conceit that too much knowledge should incline a man to atheism, and that the ignorance of second causes should make a more devout dependence upon God, which is the first cause; first, it is good to ask the question which Job asked of his friends: ‘Will you lie for God, as one man will do for another, to gratify him?’ For certain it is that God worketh nothing in nature but by second causes: and if they would have it otherwise believed, it is mere imposture, as it were in favour towards God; and nothing else but to offer to the author of truth the unclean sacrifice of a lie. But further, it is an assured truth, and a conclusion of experience, that a little or superficial knowledge of philosophy may incline the mind of man to atheism, but a further proceeding therein doth bring the mind back to religion. For in the entrance of philosophy, when the second causes, which are next unto the senses, do offer themselves to the mind of man, if it dwell and stay there it may induce some oblivion of the highest cause; but when a man passeth on further, and seeth the dependence of causes, and the works of Providence, then, according to the allegory of the poets, he will easily believe that the highest link of nature’s chain must needs be tied to the foot of Jupiter’s chair. (Bacon, Advancement 9)

According to the empiricists then, ignorance, not learning, leads to atheism. Learning must necessarily incline the mind to a deeper, and more firmly anchored faith in God. Naturally, in order for the empirical enterprise to succeed in view of the highly charged
political atmosphere of sixteenth-century theology, science had to be unequivocally presented as a route to true faith and morality. In view of this, and the other ambiguities surrounding the possible theological interpretations of the play, the level of censorship and revision to which it was subjected is understandable.

In the end, Faustus’s atheism is a moot point. He is damned (in the B text, torn limb from limb). One can only speculate as to whether this is Marlowe’s concession to the political powers that surrounded him, or an outcome he saw as justified by Faustus’s actions. At any rate, science and empirical thinking are clearly implicated in the fall of the man. It is the logic of empiricism that leads Faustus to question the ends of the various academic disciplines in which he has participated. It is the same mode of thinking that leads him to valorize control of the natural world, and thus puts him into contact with the fallen angels who are so knowledgeable about, and skilled at, manipulating nature. It is empirical thinking that leads him to trade his ineffable and invisible soul for the concrete and clearly understandable power over nature. It is empirical thinking that allows his prodigious intellect to accept a universe filled with devils, but without a hell, a God, or an afterlife. Science leads to atheism, Marlowe’s play asserts. It is the natural outcome of empirical thought, which seeks causality and rationality in all events. It is not the benign, edifying, and purifying force that the empiricists would have it be. It is malignant, insidious, and dangerous.

The Alchemist and Religion

While the science in Doctor Faustus operates by applying empirical thought to matters that English Renaissance theologians saw as the province of religion, in The
Alchemist, the focus is the discipline itself as a deceitful interloper. Jonson's play posits science as a sort of parasitic invader, mimicking the outward trappings of religion to appropriate its authority. In the hands of Jonson's cozeners, science, in this case alchemy, is used subtlety and skillfully to perpetrate a sham on plague-stricken London, by endowing three clearly clever yet undeserving charlatans with a brand of religious power over the victims of their confidence game. In the play, science takes on the morally superior ground of religion, and the privileged moral position of the church. It appropriates the functions and structure of the church. Finally, it appropriates a religious style of discourse—and so endows itself with the mysterious, cryptic, and authoritative qualities of the church. In other words, science, through illusion and mimicry, posits itself as an analogical church of nature. The fact that the cozeners can manipulate the analogy, not having any access to the substance, to create a base of pseudo-religiously constructed secular power, is Jonson's caution to his audience.

The choice of alchemy as Jonson's vehicle for cozening was fortuitous and fitting. Alchemy existed in England in the late-sixteenth- and early-seventeenth-century natural world as a bastion of analogical thought. It straddled the natural and supernatural worlds, the secular and the religious. Pamela Smith contends that "alchemy was a cosmic pursuit. Simultaneously a practice, a theory and a soteriological activity, it involved textual and experiential knowledge and promised divine illumination to the alchemist" (5). It was precisely this promise that infused alchemy with philosophical and religious significance. Peter Bement explains that alchemy

linked the technical concerns of the laboratory with the fundamentals of philosophy, religion and cosmology. The dominance of analogy in
alchemical thought meant that the metallurgical and medical properties of
the stone or elixir could be seen as ultimately the same thing, and
expressions of a striving towards perfection implicit in the whole of
creation. (Introduction 18)

This striving for perfection extended also to humans, for whom perfection was a moral
issue. Alchemy, by analogy, explained the process of salvation. It demonstrated through
metallurgy and medicine, that all of creation tended towards perfection, and that
perfection was really no more than a matter of distillation. In other words, “Alchemy, as
the imitator of Nature, demonstrated the processes by which the dross of matter could be
separated from pure essence and the way in which the redemption of humankind could
come about” (Smith 7). The alchemist, the client, and the transmutation were intrinsically
linked through analogy. Alchemists saw the link as more than just a parable however; it
was a part of the causal activity of purification. The human and metallic
had to strive together towards perfection. Thus a corrupt alchemist could not hope to
transmute matter into a more perfect state\(^{18}\). A successful alchemist was therefore a good
person.

Naturally, this made alchemy ripe for exploitation by unscrupulous charlatans like
the ones Jonson describes in The Alchemist. Through a circular argument, the success of
the experiment guarantees the virtue of the scientist, and the scientist’s success is result of
his virtue; a charlatan need only feign scientific success to establish confidence and
trustworthiness. By doing so though, the charlatan is usurping the moral high ground
traditionally belonging to the clergy. References to the redemptive power of alchemy
further erode the clerical monopoly over spiritual salvation.
Jonson's charlatans, Face, Subtle and Doll, are very aware that science and moral probity must seem to coexist in their alchemical confidence game. Sir Epicure Mammon, one of their gulls, is convinced that Subtle, the alchemist (who is known to the audience as a pimp and cheater) has the requisite spiritual purity to achieve the transmutation for the greedy knight. He describes the mortification he is convinced the alchemist has undergone in his name:

He, honest wretch,
A notable, superstitious, good soul,
Has worn his knees bare and his slippers bald
With prayer and fasting for it; and sir, let him
Do it alone for me, still. Here he comes:
Not a profane word afore him; 'tis poison.

(Jonson 2.3.101-6)

Mammon is convinced that the experiment is working (he has not actually seen it) because the alchemist is so virtuous. Subtle then, needs only feign virtue, and is seen as a successful alchemist. When the knight is set up to behave lustfully towards Doll Common, posing as a visiting lady scholar, his immoral behaviour is blamed for the failure of the transmutation. Subtle complains: “No marvel / If I found check in our great work within,
/ When such affairs as these were managing!” (Jonson 4.5.39-41). When the transmutation in process explodes, Face tells Mammon to go home and repent, taking the opportunity to cheat him out of a further hundred pounds by suggesting that he donate it (via Face) to the Bedlam asylum as penance. The link between alchemical failure and
moral laxity thus extends beyond the end of the alchemical process. If the experiment cannot be saved, at least something can be done about Mammon’s soul.

The irony here is, of course, that both the alchemy and the moral superiority are illusory. The alchemy is a blend of smoke and mirrors, and a deft use of jargon, and the morality is a code of acquisition. It is fraud posing as redemption. The science of alchemy facilitates the appropriation of a religious discourse, a discourse of moral leadership. From this privileged position then, alchemists can (and in this case do) influence theologically dictated moral stands. Alchemy, in effect, begins to inform religion.

The religious sects committed to social reform, which came into existence as a part of the Reformation, in Elizabethan and Jacobean England, bore the brunt of dramatic humour for a variety of reasons. One was their general opposition to theatre, which eventually resulted in the closure of all theatres during the Puritan interregnum. Another was the fact that, because of their insistence on social reform of the secular world, they were considered a political threat by the governments of Elizabeth I and James I, and thus became relatively safe fodder for theatrical humour. Yet another was their notoriously unyielding and rigid approach to religious dogmas, and their requisite lifestyles.

In The Alchemist, the Anabaptists take up the traditional dramatic roles of the Puritans, as buffoons and straight men. This play however, lends the exchange between the alchemist and the Anabaptists a sinister aspect as Subtle, the alchemist, sets out and eventually succeeds in influencing the moral code of the Anabaptists, known for their unswerving rectitude. He appropriates the discursive style of Anabaptist preaching when he bullies Ananias into providing additional funding for his "experiments." He tells the
junior clergyman: “Send your elders / Hither to make atonement for you quickly, / And gi’ me satisfaction; or out goes / The fire, and down th’alembics and the furnace” (Jonson 2.6. 76-79). Later, Subtle again manipulates the cleric by echoing his stern and vengeful God, and consequently appropriating the authority of infallible rectitude as well. Several scenes later, Ananias is told by his clerical superior, Tribulation:

The children of perdition are oft-times
Made instruments even of the greatest works.
Beside, we should give somewhat to man’s nature,
The place he lives in, still about the fire
And fume of metals, that intoxicate
The brain of man and make him prone to passion.
Where have you greater atheists than your cooks?
Or more profane of choleric than your glass-men?
More antichristian than your bell-founders?

(Jonson 3.1. 16-23)

No matter how many excuses Tribulation offers, both he and Ananias know that they are bending their religious laws through collusion with the alchemist. Eventually, the Anabaptist brotherhood approves Tribulation’s involvement in a counterfeiting scheme on semantic grounds (because the coins will be Dutch and not English, the brothers see this as casting—which was legal—as opposed to coining—which was illegal in England) (Jonson 3.3. 140-168). The purpose of Anabaptist isolationism was to avoid participation in precisely this sort of secular chicanery. The point was to reform society into a more godly organization. By allowing even the most righteous to be corrupted by the science of
alchemy in his play, Jonson implies two things: first, that the Anabaptists were not, perhaps, as righteous as they seemed; and second, that the power of science was great enough to overcome even the strongest moral fiber (how then, could the regular, morally lax multitudes, lacking the dogmatic commitment of the Anabaptists, hope to remain uncorrupted by it?).

Subtle's appropriation of the discourse of Anabaptist preaching to influence Ananias and Tribulation is part of a general pattern for this discursive chameleon. In fact, all three of the cozeners base much of their authority and their appearance of legitimacy on their control of discursive style. This discursive style is authoritative because of its relationship to religious discourse - especially Catholic discourse. One of the great changes wrought by the Reformation was the translation of church proceedings into the vernacular. Catholics were still worshipping in Latin at this time. Subtle is very aware of the authority of cryptic discourse, which the Catholic church had inculcated in his society. Consequently, he uses discursive obfuscation as a means of engendering an assumption of status and awed deference in the gulls of each of his cozening transactions. The following transaction takes place in the presence of Ananias:

Sub. Take away the recipient,
And rectify your menstrue from the phlegma.
Then pour it o' the Sol in the curcurbite,
And let 'em macerate together.
Face. Yes, sir.
And save the ground?
Sub. No. *Terra damnata*

Must not have entrance in the work.

( Jonson 2.5. 2-7)

Ananias, so confused by the discourse, and hearkening to the hermetic tradition\(^\text{22}\), assumes that Subtle is speaking completely in Greek. Thus a spiritual/chemical language is established in their relationship, one to which Ananias has no access. Subtle is thus privileged as initiated into the secret knowledge and code: a priest of alchemy. Subtle then proceeds to link his alchemical discourse, with one more familiar to Ananias, a quasi-religious jargon. He asks Face to “Name the vexations and the martyrizations / Of metals in the work” (Jonson 2.5. 20-21). This religiosity of alchemical terms is not unusual. Alchemical terms were semiotically inseparable from spiritual and religious words, however, Subtle’s linguistic manipulation is sheer cozening artistry. His manipulation of quasi-religious status is evident in his relationship with Mammon, who calls him “Father” and whom he calls “Son” (Jonson 2.3. 1-2). The appropriation of a quasi-religious alchemical discourse essentially implies an alchemical hierarchy replicating that of the Catholic church. The authority that Subtle gains then, is the divinely sanctioned authority of the clergy. The actual religious affiliation of the gull is irrelevant, Subtle is relying on the automatic deference due to an initiate of life’s mysteries, of someone having a privileged relationship with truth.

Essentially, Subtle is utilizing the political efficacy of truth. The truth that he manufactures is divinely sanctioned because of its discursive style. Michel Foucault discusses this notion of truth:
Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its regime of truth, its “general politics” of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true. (Foucault 1144)

The cozeners are well aware of the “general politics” of truth” in their society. Thus they use the most efficacious discourses and discursive styles available to them. They manipulate a discourse that suggests that they are in possession of special knowledge, powerful secrets that can make their followers wonderfully rich” (Slights 105). Alchemy provides a discursive blind, a conveniently cryptic obfuscating style wherein they can conceal their predatory intents. Spiritual alchemy provides a blanket source of discursive authority.

Naturally, the three cozeners were not alone in their understanding of the power of discourse. Surly, a guest of Mammon, is introduced as “An heretic” (Jonson 2.3. 3) because of his skepticism concerning Subtle’s alchemical prowess. He listens to one of Subtle’s lengthier expositions of alchemical process, and then renders his opinion of the science:

alchemy is a pretty kind of game,

Somewhat like tricks o’ the cards, to cheat a man
With charming . . .

What else are all your terms,

Whereon no one o' your writers 'gree with other?

(Jonson 2.3.180-4).

Surly thus, is well aware of the function of alchemical discourse in the cozening process. He is also well aware of the general alchemical discourse which strives to obfuscate. He is quite able to wield the terminology himself in an attempt to make this function clear to his friend, Mammon:

And this be your elixir,

Your *lapis mineralis*, and your lulary,

Give me your honest trick yet at primero

Or gleek\(^24\), and take your *lutum sapientis*,

Your *menstruum simplex*: I'll have gold before you,

and with less danger of the quicksilver

Or the hot sulphur! (Jonson 2.3. 282-288)

Despite Surly's linguistic desecration of alchemical terms, Mammon is certain that alchemical secrets should be obscured and kept from the general public. He explains to Surly that Sisyphus was condemned for eternity to roll his stone up the hill for divulging alchemical secrets (Jonson 2.3. 207-210). He is, in fact participating in a larger discourse, with a long history in England. Roger Bacon\(^25\) maintained that "he is worse than man that publisheth any secret, unless he conceale it from the multitude, and in such wise deliver it, that even the studious and learned shall hardly understand it" (qtd in Slights 112). The trappings and jargon of alchemy (a strict hermetic code supported by a variety of devices
for chemical distillation and necromantic conjuration) had become what David Hess refers to as technototems, firmly and unequivocally contributing to the “myriad of divisions that allow people to make distinctions among themselves through their objects” (Hess 21). In this case, the objects must include the discursive style, the apparatus, even the clothing of the alchemist. Armed with these “technototems” then, a whole gamut of alchemical practitioners in a variety of social settings exercised the discursive authority of early modern science. Their jargon was a source of great consternation to their critics, but vital to the preservation of their status and identity as a group empowered by knowledge. The jargon was, in fact, actively maintained by alchemical scholars as Paul Skalich de Lika explains in *Occulta occultorum occulta* (written in 1555):

> Although I have made clear, manifest and unambiguous the knowledge which my predecessors have handed down wrapped up in enigmas and fables, or expressed in confused or crude language, yet have I, as it were, locked it up with the most secure key, lest the arcane and secret doctrine of the wise should fall into the hands of fools, and should allow unlettered or biased men, or even women, or butchers, or artisans, or farm workers to enter into disputes about the highest mysteries of faith, and thereby profane everything (as, alas! Now happens daily). (qtd. in Maclean 235)

De Lika is not alone in his protectionist point of view. He follows a strong tradition of purposeful obfuscation. Francis Bacon, on the other hand, like Surly, is deeply suspicious of this strategic obfuscation. In *Of the Advancement of Learning*, he suggests a reason for the practice:
But the derivations and prosecutions to these ends, both in the theories and in the practices, are full of error and vanity; which the great professors themselves have sought to veil over and conceal by enigmatic writings, and referring themselves to auricular traditions and such other devices, to save the credit of impostures. (31)

Here Bacon and Surly agree: discursive obfuscation creates exclusivity and empowers those familiar with the discourse. Jonson’s dramatic dialogue on alchemical discourse then, is highly pertinent. It reflects an uneasiness with science (and alchemy) as a rival to religion as a central discursive focus for society. It is a cautionary statement, exposing the ways in which authoritative discourses function, and the ways in which they can be abused and usurped.

Because alchemy has the discursive qualities of religion, and because it is informed by morality, in Jonson’s play, it subsumes the functions of religion. In plague-stricken London, instead of rushing to church for comfort, the gulls flock to the alchemist not only to make a worldly profit, but also for the practical ministering normally provided by the church. The young Drugger, for instance, basically wants his new business blessed. He wants extra insurance that it will be prosperous. Instead of speaking to a priest, he turns to Subtle, explaining:

I am a young beginner, and am building
Of a new shop, and’t like your worship, just
At corner of a street - here’s the plot on’t -
And I would know by art, sir, of your worship,
Which way I should make my door, by necromancy,
And where my shelves, and which should be for boxes,
And which for pots. I would be glad to thrive, sir.
And I was wished to your worship by a gentleman,
One Captain Face, that says you know men’s planets,
And their good angels, and their bad.

(Jonson 1.3. 7-16)

Thus the alchemist, and not the priest or minister, has the ability to confer good fortune on a place. The alchemist is a substitute for prayer. Subtle has knowledge of the good and bad angels. In fact, as Mammon explains, alchemy is better even than the angels; through the philosopher’s stone, it can actually perform miracles: “confer honour, love, respect, long life; / Give safety, valour, yea, and victory” (Jonson 2.1. 50-51). With the stone, boasts Mammon, “In eight and twenty days / I’ll make an old man of fourscore a child” (Jonson 2.2. 52-53). The church’s ministry is thus replaced in Jonson’s London, with the ministry of alchemy.

The cozeners seem well aware of this, as they incorporate clearly clerical procedures into their confidence game, especially when dealing Dapper. Dapper’s ambition is to meet the Fairy Queen; however, he is told that he must prepare himself for this event. He is treated like a novice, asked to “undergo ritualized tests of patience, poverty, and mortification of the flesh” (Slights 117). He undergoes an initiation, guided by Subtle:

Sir, against one o’clock, prepare yourself.
Till when you must be fasting; only, take
Three drops of vinegar in at your nose,
Two at your mouth, and one at either ear;
Then bath your fingers' ends and wash your eyes,
To sharpen your five senses; and cry 'hum'
Thrice, and then 'buzz' as often; and then come.

(Jonson 1.3. 164-170)

When he returns, having “vinegared his senses” (Jonson 3.5.5), he is blindfolded, and asked to perform an act of faith: “trusting unto her to make his state, / He'll throw away all wordly pelf about him” (Jonson 3.5.17-18). Finally, after being searched by the fairies, he undergoes his final trial, the fumigation. He is locked in the privy with a piece of gingerbread lodged in his mouth (Jonson 3.5. 69-81). Thus Dapper undergoes a series of trials as he moves from novice to initiate. The structure and content of the trials is reminiscent of the vows of poverty and chastity and even silence that various clergy at the time were making. This appropriation of the quasi-clerical rites of investiture by the cozeners supplies a pointed comment on the function and purpose of alchemical science in Jonson’s social environment.

Jonson’s play cautions that alchemy is clearly usurping the church’s position, privileges, and authority. In a time of spiritual crisis, brought on by the Reformation and the plague, alchemists use circular argument to posit themselves as morally superior, and divinely sanctioned, thus usurping the role of clergy. In The Alchemist, Jonson illustrates how this argument is manufactured and maintained by the cozeners, how it is effective on Mammon, and how it informs all transactions in the play. Through Subtle, the dramatic
fraudulent alchemist, Jonson locates the seat of alchemical power in the highly obfuscating
discursive style. The cozeners are all aware of this style, and use it liberally to reinforce
their own quasi-clerical superiority. Surly is also aware of it, and tries, less successfully,
to undermine its effects—the seeming sanctification of the alchemical process through
analogy with the cryptic discourse of religion, especially Catholic religion. The cozeners
take on not only the moral and discursive qualities of religion, but also the rituals and
traditional roles of religion. They are a focus of attention in a time of extreme crisis—the
plague. They participate in the launching of ventures, with a style of blessing. They also
mimic the initiation rights of clerical orders,affording themselves again, the rights and
privileges of organized clergy in their society. In a larger context, Jonson’s play cautions
against the potentially destructive power of science in a society were religion and politics
are so closely related. Religious authority was never just religious in Jonson’s time—and
science, it seems, was never just science.
Chapter Three Politics and Science

Science and Politics

In order to contextualize the politicality of Marlowe's *Doctor Faustus*, and Jonson's *The Alchemist*, it is crucial to understand how science operated as a political discourse in the late sixteenth century. Not until the late-seventeenth century, did natural philosophers – early scientists – begin to erect disciplinary and formal institutional boundaries between the discourses of theology, politics and natural philosophy. Theology, as I explained earlier, was very much a political concern in Marlowe's time. Julian Martin explains:

Little practical distinction was made by civil authorities between religious knowledge and knowledge of the natural world. Books of natural philosophy, no less than books of theology, were vetted and licensed, and often by the same officials: for was not natural philosophy a study of God's handiwork? And equally, claims about the structure of the natural world, about the methods by which one could come to know it, and about who could legitimately participate in its discovery, could be viewed not only as having implications for religious belief, but also for the structure of the valid state, how to achieve it, and who could legitimately participate in its governance. The natural philosophies of Renaissance Europeans were not
viewed as discourse innocent of civil significance, either by the makers or
their political masters. (102)

The potency of the discourse then, resided not only in its internal structures, what it
presented as a true interpretation of nature, but also in the way it interacted with the other,
related power bases in late sixteenth-century England.

From the Classical philosophers, through medieval writing, came the basic
premise that the natural world was perfect, a projection of the divine mind. All human
inventions (mechanical, social, etc.) were copies of natural perfection and necessarily
flawed (Newman 424). The English Renaissance inherited from the medieval world view
a basic assumption that the natural world ought to and does provide paradigms for all
human interactions. In a letter to King James (written in 1603), Francis Bacon re-asserts
this assumption as part of his plan for educational and scientific reform: “...there is a great
affinity and consent between the rules of nature and the true rules of policy: the one being
nothing else but an order in the government of the world, and the other in the government
of an estate...” His plan was to utilize the knowledge gained of the natural world to make
“the government of the world a mirror of the government of a state” (Bacon qtd. in Martin
111). The basic premise is that nature is the discursive medium of God, so human
discourses should emulate divine discourses. Consequently, a great deal of authority is
invested in the interpreter of God’s discourse: the natural philosopher – the scientist.

This hierarchical arrangement, privileging the natural philosopher, was naturally
not a comfortable one for representatives of the government, whose authority came
traditionally from the divine right of the monarch to rule, and of the church, whose source
of discursive power, the scriptures, was being substituted by an alternative, easily
accessible and widely experienced source, the natural world. Part of Francis Bacon’s plan for promoting the sciences then, necessarily involved assuaging the concerns of his critics among the “politiques” (Bacon, Advancement 10). Secular authority, he claims, is reinforced through acquaintance with natural philosophy:

Again, for that other conceit that learning should undermine the reverence of laws and government, it is assuredly a mere depravation and calumny, without all shadow of truth. For to say that a blind custom of obedience should be a surer obligation than duty taught and understood, it is to affirm, that a blind man may tread surer by a guide than a seeing man can by a light. And it is without all controversy, that learning doth make the minds of men gentle, generous, maniable, and pliant to government; whereas ignorance makes them churlish, thwart, and mutinous: and the evidence of time doth clear this assertion, considering that the most barbarous, rude, and unlearned times have been most subject to tumults, seditions, and changes. (Advancement 15)

In other words, Bacon claims there is historical precedent to support his assertions that science and political order are mutually reinforcing. Science, he insists, makes better citizens. In fact, it makes better people:

It taketh away all levity, temerity, and insolency, by copious suggestions of all doubts and difficulties, and acquainting the mind to balance reasons on both sides, and to turn back the first offers and conceits of the mind, and to accept of nothing but examined and tried. It taketh away vain admiration of anything, which is the root of all weakness. (Bacon, Advancement 55)
According to Bacon then, a widespread knowledge of science promotes stability. Although it seems to be, Bacon’s philosophy was not, enfranchising to the lower classes. Julian Martin notes: “Bacon was deeply suspicious of the social and political pretensions of those he called ‘voluntaries’ in natural knowledge, and around him in the 1580s and later he could see many such independent investigators” (108). The lower classes were expected to learn standard interpretations of nature supplied by natural philosophers affiliated with the state, rather than indulge in individualistic interpretive exercises. Political power was firmly located with the monarchy and secular authorities in Bacon’s project.

The Brief and Tragi cal Political Career of Doctor Faustus

Doctor Faustus is a scientist by virtue of his affiliation with the devil and though this affiliation may have been considered immoral, it was not considered unnatural, nor was it outside of or marginal to the official scientific discourse. In fact, Faustus’s brand of natural investigation was an accepted norm in Elizabethan society, which invested it with a good deal of political significance. As I explained earlier, demons were considered very much a part of the natural world. Scientists were expected to be curious about all of nature, and adept at interpreting much of it. Their interpretations were applied to all aspects of life and policy. The fact that scientists were not derived from ruling stock, and yet were often involved in shaping crucial policy did not escape Christopher Marlowe. In Doctor Faustus, a great deal of anxiety is expressed about the political role that science enables for unworthy people. As well, the play examines how science enables and supports policies, such as colonial expansionism. While the play does not criticize these
policies overtly, it does suggest that they may be based on faulty premises. In the play, science operates as a mechanism enabling political activity. Faustus’s failure as a political force suggests that science is vesting unworthy concepts and individuals with political authority.

Faustus’s political machinations are entirely dependent on his affiliation with science. In the prologue, he is introduced as a character of base stock. Although historically, Faustus was German, Marlowe’s play was clearly intended for an English audience, and addresses English issues. Faustus was, after all, said to be modeled after John Dee. In the highly hierarchical milieu of Elizabethan England, a man like Faustus could hope at best for a plodding clerical position in the public service. Through science, through his manipulation of natural phenomena, Faustus gains access to some of the finest courts in the world. In fashioning a self that is defined by an illusory superiority, he engages in a colonial discourse with those he encounters, and posits himself as the subject, objectifying all others. In the process of creating this base, yet powerful self, he refutes most of Francis Bacon’s basic assertions about education, atheism and political malleability.

It is significant that the Chorus introduces the play by indicating what it will not concern:

Not marching now in fields of Thracimene
Where Mars did mate the Carthaginians,
Nor sporting in the dalliance of love
In courts of kings where state is overturn’d,
Nor in the pomp of proud audacious deeds

Intends our muse to vaunt this heavenly verse. (Marlowe, Prologue 1-6)

In other words, the play will not deal with great battles between noble people (like Hannibal, leader of the Carthaginian army that defeated the Romans at Lake Trasummenus), or with the loves of divinely and secularly sanctioned rulers (kings), or with grand heroic deeds. Instead, the Chorus warns, the play will focus on Faustus, whose parents are “base of stock” (Marlowe, Prologue 11), and who is “grac’d with doctor’s name” (Marlowe, Prologue 17) as a result of education. The hierarchy of political agency, which was naturalized as an obvious reflection of natural hierarchies, is evoked here as a standard subject of literary text. Great deeds of noble and powerful men are the normal subjects of literature, we are told. Faustus’s story is juxtaposed with this tradition as a discourse of subversion. Kings are associated with conquest, high romance and noteworthy activity. This text, however, chooses another paradigm, allowing Doctor Faustus access to real and potential power despite his familial shortcomings. His thirst for power is unsatisfied by the fields of knowledge he has mastered. The science of necromancy, he believes, is the only tool available to him, with which he can access power he would normally be excluded from wielding (Marlowe 1.1.50-64).

Faustus’s political aspirations, in fact, are all the more unmanageably grand and unfulfillable because of his base upbringing. His megalomania is a Marlovian warning against situating power (derived from knowledge) in an inappropriate social setting. On first deciding to bargain for the continuing service of Mephistophilis, Faustus plans:

By him I’ll be great emperor of the world,
And make a bridge thorough the moving air
To pass the ocean with a band of men;
I’ll join the hills that bind the Afric shore,
And make that country continent to Spain,
And both contributory to my crown;
The emperor shall not live but by my leave,
Nor any potentate of Germany. (Marlowe 1.3.104-11)

Faustus plans to accomplish what none other has. His ambitions are, however, exposed as base and common when we learn that they are not unique to Faustus. This lust for power is endemic to academic men of lower class. Valdes, one of Faustus’s colleagues lends him some books about necromancy, promising: “Faustus, theses books, thy wit, and our experience / Shall make all nations to canonize us” (Marlowe 1.1.120-1). The comic sections of the play foreground the clash between class and power, as time and again the clownish servants mimic the activity of Faustus, with even less satisfactory results.

Faustus’s servant Robin, for instance, plans to use his power (acquired by conjuring from a book stolen from Faustus) to “Make all the maidens in our parish dance at my pleasure stark naked before me” (Marlowe 2.2.2-5). Robin’s class and training make him (according to Marlovian principles) naturally prone to a lust for ill-gotten power, just as Faustus is prone. The ambitions of Faustus, Valdes, Cornelius, Wagner, Robin and Rafe are a brand of opportunistic megalomania that characterizes the lower classes. Science provides Faustus with the opportunity to manufacture political power for himself, enabling his basic counter-productive instincts. Science, according to Marlowe, affords the means for political chaos. Motivation and opportunity are a matter of breeding.
It is a matter of mordant irony then, as well as an indication of base lineage, that Faustus spends his enormous potential political power on trite and pointless, foolish pranks. He and Mephastophilis visit the Pope in his palace, and play silly practical jokes on him. As invisible spirits they steal his food (an ineffectual if symbolically blasphemous act), insult him, and box his ear (Marlowe 3.1.48-97). At the court of Emperor Carolus V (King of Spain and the Holy Roman Emperor), Faustus is a sycophant, amusing the Emperor with a conjured masque. Here also he alleviates the wound to his pride inflicted by a knight who doubts the authenticity of the doctor’s conjurations, by magically applying a pair of stag horns to the knight’s head. Shortly afterwards, he once again plays the court toady for the Duke and Duchess of Vanholt (Marlowe 4. 3.1-33), sending Mephastophilis to fetch grapes from the southern hemisphere to sate the appetite of the pregnant duchess. For all his ambitions, he manages to do very little but to amuse himself and pay obsequious attention to a variety of genuine rulers whose courts, dignity, and sense of propriety and moderation (it is Carolus who eventually tells Faustus that his prank with the knight has gone too far (Marlowe 4.1.83-4)) serve to foreground Faustus’s failure as a political force. Science then grants power, but not the sense to use it wisely or practically.

Along with the more obvious juxtaposition of power inherited and power gained through science, the play also considers Elizabethan political praxis and foreign policy in terms of legitimate uses of knowledge. Of particular interest here is the analogy to colonial expansionism. Faustus establishes his colonial ambitions when he plans: “I’ll join the hills that bind the Afric shore, / And make that country continent to Spain, / And both contributory to my crown” (Marlowe 1.3.106-8). Significantly, in Faustus’s re-fashioned
geography, colony and colonial centre are one, a notion that mirrors the structure of imperial hell in the play. Lucifer is an imperialist, we learn (Bartles 126). When Faustus asks Mephastophilis: "What good will my soul do thy lord?", the demon answers: "Enlarge his kingdom" (Marlowe 2.1.39-40). Yet, we are told, hell is not circumscribed geographically: "Hell hath no limits, nor is circumscrib'd / In one self place, but where we are is hell, / And where hell is there must we ever be" (Marlowe 2.1.122-7). Geographical boundaries then are irrelevant. Naturally, this is an ideal in Elizabethan England, where travel to and from the colonies is expensive and dangerous. In the real world, geography does, in fact, matter. Easy access to colonial holdings then is Faustus's plan. He expects that science will simplify the process of acquiring and maintaining colonies. The relationship between colonial centre and colony is defined in terms of reference rather than location. Ultimately, Faustus's land bridge will not join Spain and her colonies, and subsume them all into a Faustian empire. The best that Faustus can manage is to "prove cosmography, / That measures coasts and kingdoms of the earth" (Marlowe, Chorus 3.20-1), rather than actually modifying it. Politically, that activity has little significance.

Earlier in the play, Faustus builds his conjuring circle (Marlowe 1.3.8-15) as a boundary between himself, the subject, and the spirits he intends to manipulate, his objects; between himself as knowable centre, and the rest of the world as unknowable colonial other (Garber 11-12). It turns out however, that the circle is impotent as a magical, symbolical, or scientific instrument. Mephastophilis explains that the concept of conjuration rather than any actual effect of the spells draws him to Faustus (Marlowe 1.3.46-54). Thus Faustus attempts and fails to build or dismantle any meaningful boundaries with his science.
Faustus, as a subject of colonial discourse, appears to the dignitaries he visits (at least the secular ones) as an unknowable, potent stranger. His image of potency is enabled by his association with the occult sciences. When he conjures up the ghost of Helen of Troy and Alexander the Great, then capriciously makes a scoffing knight grow horns (Marlowe 4.1.17-93), he is displaying unknowable power for the amusement of royalty. He is simultaneously enacting a colonial scene – impressing foreigners (Emperor Carolus V and the Duke and Duchess of Vanholt) with power whose agency he understands and controls, but which seems miraculous to them. At the same time Marlowe’s compatriots were introducing the potent and seemingly miraculous powers of liquor and gunpowder to American societies. Science was thus enabling the domination of people, who with a little training could themselves control these potent manipulations of the natural world. The difference between the literary and actual situations is that Faustus proves himself essentially inferior to those whom he impresses, whereas Europeans believed themselves intrinsically superior to those they colonised. This belief was based, to a great extent, on scientific reasoning.

In sixteenth-century England, the hierarchies of nature, as natural paradigms mandated a system of hierarchy among the nations of the world. A naturalized notion of the basic ethical correctness of the domination of colonized people, was found in the renaissance notion of natural slavery: “Nations that deface natural reason through their fundamental laws and customs became natural slaves, nations de facto but not de jure. The laws of nature and nations permit nations de jure to conquer and subdue these mere ‘swarms of people’” (Rustici 60). The natural world, as God’s template for humanity, served not only as a guideline for political and social organisation, but also as a medium
for God's commentary on Earthly events. Natural events were interpreted as communications from God, supporting, or expressing His disapproval of human political activity. Stephen Greenblatt furnishes an apt example:

Demographers of Mesoamerica now estimate, for example, that the population of Hispaniola in 1492 was 7-8 million, perhaps as high as 11 million. Reduction to [an] attractive man-land ratio was startlingly sudden: by 1501, enslavement, disruption of agriculture, and, above all, European disease had reduced the population to some 700,000; by 1512, to 28,000. The unimaginable massiveness of the death rate did not, of course, go unnoticed; European observers took it as a sign of God's determination to cast down the idolaters and open the New World to Christianity. (Self-Fashioning 226)

The interpreters of nature here ascribed a political goal to disease. In Doctor Faustus, the propriety of this belief and of the deferential attitude towards science and natural paradigm is challenged. Faustus is the object of pity and fear in his own society. He is a marginalized "other" (Marlowe 5.2.1-56). Nonetheless, he posits himself as the subject of colonial discourse abroad. He is in control of the "unknowable" events at the courts of the two nobles - he is the magician, the mystifier, the seemingly powerful, yet negotiating visitor. His exoticism and potency, it appears, are relative to the point of view and not a natural consequence of his innate superiority. His behaviour in these situations repeatedly brands him a hereditary lackey. The commentary is doubly poignant, questioning the assumptions underlying colonial expansionism and foregrounding the role of science as enabling and confirming this political practice. Additionally, for Marlowe's audience, the
court of Carolus V could easily be the court of Elizabeth I, and Faustus could be a stand in for John Dee who, at times, held considerable sway at the court of Elizabeth I. The play suggests that like Dee, Faustus depended on a power that was generated through science, largely by illusion. In the sixteenth century, science used to generate illusion was automatically suspected of demonic influence. Science, as a force influencing and informing the development of governmental policy is thus discredited in the play, and the influence of occult scientists, like John Dee is brought into contention.

Doctor Faustus acted as an interlocutor in the discourse surrounding the development of modern science, presenting politically potent and poignant ideas as refutations, contributions, and theses in a field of discourse already actively occupied with critical considerations of the social, political, and theological roles of science. It directly refutes some of the scientific tenets that were being proposed by Francis Bacon by demonstrating that knowledge does not necessarily carry with it superior ethical awareness and that it is not a means of stabilizing and maintaining existing political and social hierarchies. The play also exposes how science enables colonial domination and questions the ethics of this practice as well. The play is generally cautionary. It posits science as a potential force for social and political disruption. It suggests that science enables power without the prerequisites of status, class, and presumably statecraft. The play then, is a manifesto urging order, caution and deliberate attention to ethics and discouraging an unexamined acceptance of the budding field of empirical science.
Alchemy and Politics

On first glance, science in The Alchemist, seems to operate as a blind political tool. Mammon uses it to promote his own selfish cause, while Ananias and Tribulation use it to further the political goals of their brotherhood. This is the Baconian view of science, a discipline that served to examine, reinforce, and focus, but not to alter social or political patterns. A closer look at Jonson’s science, however, indicates that Bacon’s assessment is naive. Science is operating as a political force in its own right in the play. It actively propagates and supports fractioning and exclusivity. It empowers private ventures and enables unlikely and unpredictable power bases. By virtue of it, Subtle, Face, and Doll Common transmute Lovewit’s house into an isolated microcosmic republic, governed by the “venture tripartite.” Soon, however, it becomes apparent that the alchemical republic cannot exist in political isolation, and that the science practiced inside this state, has potentially very serious and far-reaching consequences. Science, in The Alchemist, is a seditious, fractioning political force, whose subversive agenda is hidden in a philosophy of learning about the natural world.

David Hess claims that western science developed as a “relatively autonomous activity, that is, as relatively independent of direct religious or political influence,” because of a general delineation of the “various spheres of society—the economy, state, church, and so on” in the early modern western world (Hess 70). In Elizabethan and Jacobean England, this autonomy enabled science to develop into a private venture. This meant that private practitioners of various types of science, could operate completely outside of state control. For instance,
Sir Hugh Plat, the Puritan advocate of ‘philosophical experiments’, was deeply immersed in alchemical lore and constantly advertising for financial support from private gentlemen for his technological ‘projects’ … men like [John] Dee and Plat celebrated the private creation of their natural knowledge, insisted on its private ownership and expected rewards for any practical fruits of it. (Martin 108).

Scientific knowledge then, became a commercial venture, conducted under the patronage of men like Sir Philip Sidney and the Earl of Leicester (Martin 108). Commerce was already making its mark on English society, spawning a new unlanded mercantile class, and transforming political praxis. Plat and Dee thrived in the free enterprise atmosphere that science helped to engender, however, many were keenly aware that this democratic scientific phenomenon was in itself seditious in an absolute monarchy, as well as a source of potential secondary sedition, through the inappropriate dissemination of empowering knowledge. Francis Bacon, the spokesman for centralized science, lobbied for a state regulated field of study in which only certain men should be allowed to participate:

... and these persons would be selected by the state (represented, no doubt, by Bacon himself). The programme demanded their utter loyalty (including the eradication of their intellectual presuppositions), and their maintenance of a complete secrecy over the gradually emerging knowledge of the structure of the natural world. Because, as he often claimed, ‘Knowledge is power’, it was potentially politically dangerous, since it provided the key not only to material prosperity, but also to the irresistible (since God’s) and hidden principles of civil government. (Martin 111)
Bacon recognizes that science, even on a small scale, holds the potential for great political power. Organized science, he recognizes as a type of statehood, or as Julian Martin puts it, “a department of state” which he planned to govern himself (Martin 109). So although Bacon claims that science instills a sense of civil duty in its practitioners (Bacon, *Advancement* 15), he nonetheless perceives a need for state imposed checks and restrictions, channeling the power derived from the discipline along appropriate (non-seditious) lines. He was unequivocally opposed to scientific experimentation or study outside of his planned regulated environment. He planned to eradicate “two sorts of rovers, whereof the one with frivolous disputations, confutations, and verbosities, the other with blind experiments and auricular traditions and impostures, hath committed many spoils” (Bacon qtd. in Martin 109). These “spoils,” it seems, involved both the corruption and public degradation of science by ignorant exponents, and the establishment of a seditious power base supported through linguistic manipulation. In other words, science was operating out of control.

The possibility of scientific sedition was enhanced by the fact that the ties between science (especially alchemy) and politics were well established at this time. As I mentioned earlier, alchemists were present at most European courts, and fulfilled a variety of functions, from casting fortunes and writing almanacs, to developing nautical charts and navigational instruments. According to Pamela Smith, alchemy was so intrinsic to court life (she describes the Habsburg courts), that it became a language and activity of mediation between “noble and commercial culture” and between the secular and religious (Smith 3). It mediated between ruler and God. Divine approbation for the ruler resulted in successful alchemy at court.
It is this mediating quality of alchemy that enables the three cozeners in *The Alchemist* to transform Sir Lovewit's house into a republican state. They reverse the alchemical metaphor that governments used to mediate between themselves and the world and adopt a political conceit which characterizes their exchanges throughout the play, but is most obvious in the initial scene. Doll Common attempts to placate her two arguing cohorts by appealing to their personal and political responsibilities: "'Slight, / Have yet some care of me, o' your republic — " (Jonson 1.1.110). As rulers of the "venture tripartite" (Jonson 1.1.135), all are aware that none is dispensable. Their unified rule sustains and creates the republic, as Gabriele Jackson notes: "The trio of characters who want simultaneously to secede from and control this social world must adhere to their 'indenture tripartite'" (123). Doll points out the consequences of discord to her partners, phrased in political metaphor again: "Will you undo yourselves with civil war?" (Jonson 1.1.82). Political conceit translates a squabble amongst thieves into civil strife. To reinforce their own position, as rulers of their alchemical republic, they address each other with formal titles: Subtle is the "Sovereign," Face, the "General," and Doll Common is "Royal Doll" (Jonson 1.1.170-175). As long as the three are unified in interests and action, the state maintains equilibrium, and exists as a separate constructed political entity.

Once visitors enter the house, the political structure becomes invisible, yet each is cozened into participating in the alchemical conceit, and thus participates in the political structure. Each is made a subject through his apparent inferiority in the alchemical hierarchy. As I discussed earlier, the obfuscating alchemical discourse clearly delineates the initiated and the supplicants. It also establishes exclusivity, and thus demarcates the
ruling class. The alchemical conceit utilizes well-known alchemical principles to establish the metaphorical function of the political triumvirate. The basic process was as follows:

When from the original "base earth," as the foundation matter of the experiment was called, had been extracted the basic substances sulphur and mercury, these were refined from their ordinary physical state into alchemically workable sulphur and mercury, of which sulphur was regarded as male and mercury as female. The ultimate object was to marry these metals. To that end, they were purged of all impurities by repeated distillation in a closed vessel, which raised their state until, heated and reheated, they fused and became gold. In the highly influential version of this process described by Paraceiusus, a third basic material was added: salt, which was necessary to fix the color of the ultimate fusion. (Jackson 123-4)

This produced a gold substance, the philosopher's stone, capable of transmuting all baser metals into gold. The sulphur, mercury and salt, are Subtle, Doll Common, and Face in the alchemical metaphor. The sealed vessel is Lovewit's house. They operate a confidence game that metaphorically transforms their gulls into gold (Jackson 124). Only the gold is literal, but that is essentially all they really care about.

The fact that the alchemy practiced in Lovewit's house is a sham is irrelevant because the illusion that it is real governs the actions of the gulls. The space inside the house is charged alchemically and politically as long as the gulls believe it is. For the cozeners, it turns gulls into money, for the gulls it holds the potential of making their fantasies (political, financial, sexual, etc.) real. The metaphorical analogies have another
level yet, if we keep in mind that the play was written to be performed in a theatrical space. William Slights explains: “The conspiratorial act of investing space with power to fulfill the desires of anyone gullible enough to be lured into the conspiracy bears a compelling resemblance to Jonson’s own treatment of his audience and his theoretical space” (115). Jonson’s intention was clearly didactic, his dedication to Horatian dramatic principles, a constant theme in his writing. His gulls were his audience, and they were asked to invest their faith and imaginations into the action taking place on the bare Jacobean stage. The illusion created in that charged space was meant to instruct and delight them, according to the Horatian edict (Horace 72). Regardless of the fact that the theatre creates an illusion, as the alchemy in Lovewit’s house is an illusion, if the audience is gulled (albeit knowingly), then a transformation occurs. Similarly, the cozeners need to maintain the insular quality of their republic in order to affect the audience. In other words,

The narrow hermeneutic constructed by this closed interpretive community cannot accommodate the intrusion of outsiders such as Surly (who is finally banished) and Lovewit (who co-opts all sense and the residual treasure). With the return of the interpretive norms of the suburban community — assertions of ownership, consultations with neighbours, appeals to the authorities — the conspirators can no longer legislate their own sense of things. They have, though, left their distinctive mark on the way we perceive the arbitrary business of assigning significance to human activities. (Slights 115)
Jonson was banking on this transition from the insulated powerful space, to the wider socially and politically active space, to permit the didactic message of his play to effect real change in the real world. If he instructed his audience about the potential dangers of science (while delighting them with the antics of the cozeners), they would hopefully leave with an understanding of his political misgivings, and act accordingly. Additionally, they would be aware that no enclosed power can operate truly in isolation.

As Jonson’s audience eventually acts on their newly acquired misgivings about science, transgressing the physical and imaginary theatrical boundary, so the activities of the cozeners have significance beyond the limited space enclosed by Lovewit’s walls. The very act of establishing the tiny republic was significant in many ways. Most obviously, in a society trained from medieval times to equate the microcosmic with the macrocosmic, scale was hardly significant. Science was clearly enabling the creation of states within states. Including the Anabaptist subplot in the play forced the audience to view the activities of the cozeners in terms of their macrocosmic analogy. Anabaptists were, after all, considered a serious political threat. Their doctrine involved political separatism, opposing the authority of states and state churches. Tribulation and Ananias engage the alchemists to produce the philosopher’s stone in order to finance their separatist political agenda. Tribulation explains to Ananias: “Good brother, we must bend unto all means / that may give furtherance to the holy cause” (Jonson 3.2.11-12). The “holy cause,” it turns out, involves “restoring of the silenced saints” (Jonson 3.2. 38), or exiled comrades (Bement 168, 202). The similarity of the separatism of the Anabaptists to the republican government of the alchemical trio is foregrounded by the fact that both groups
communicate in a distinctive and metaphorically laden jargon. While Subtle explains the progress of his work to Mammon in clearly technical terms:

"I exalt our med’cine / By hanging him in baleno vaporoso, / And giving him solution;
then congeal him . . ." (Jonson 2.3.102-104), Tribulation discusses his plans with Ananias in equally esoteric jargon: "When as the work is done, the stone is made, / The heat of his may turn into a zeal, / And stand up for the beauteous discipline / Against the menstruous cloth and rag of Rome" (Jonson 3.1. 30-33). The Anabaptists then, and the alchemists, are linked linguistically, and this colours the amusing tale of the cozeners with a seriousness and threat; their potential political threat far surpasses any damage to property or loss of money that results from their confidence games.

Doll Common’s rantings echo this linguistic warning. Doll is said to have been driven mad upon reading the books of Hugh Broughton, who published Puritan interpretations of the Bible. She quotes Broughton in her fits, brought on by any mention of hermetic genealogy (Jonson 4.1. 174). Once she starts, it becomes evident that Puritan dogma is just as laced with authoritative jargon as alchemical and Anabaptist communication:

Doll: And so we may arrive by Talmud skill
And profane Greek to raise the building up
Of Helen’s house against the Ismaelite,
King of Thogarma, and his Habergions
Brimstony, blue and fiery; and the force
Of King Abaddon, and the Beast of Cittim;
Which Rabbi David Kimchi, Onkelos,

And Aben-Ezra do interpret Rome.

(Jonson 4.5. 25-32)

Jonson here parodies the rhetoric of the Puritan preacher, demystifying this discursive style (partly by having Mammon and Face continue their conversation while Doll rants), while at the same time extending “his interrogation of religious discourse specifically to include those who would rewrite history in order to establish political power” (Slights 110). The Puritans, like the Anabaptists, are a threat to the existing state (in the case of the Puritans, the events of the Interregnum, bore out this threat) due to their insistence on social and political reform.

Doll Common’s role as a focus on the political implications of the alchemical cozening is not limited however, to ranting Puritan tracts. She appears, as the voice of common sense juxtaposed with the less realistically grounded Mammon. The gull promises Doll that, were she to join him as his companion, she would

Be seen at feasts and triumphs; have it asked

What miracle she is; set all the eyes

Of court a-fire, like a burning-glass,

And work ‘em into cinders, when the jewels

Of twenty states adorn thee [her], and the light

 Strikes out the stars: that, when thy [her] name is mentioned,

Queen may look pale;

(Jonson 4.1. 138-144)
Doll sensibly answers:

I could well consent, sir.

But in a monarchy, how will this be?

The Prince will soon take notice, and both seize

You and your stone, it being a wealth unfit

For any private subject.

(Jonson 4.1. 146-150)

Essentially, she is reminding Mammon of the world outside, and drawing attention to the fact that the alchemical micro-state must necessarily interact with the larger, English state. Mammon’s suggestion that they go live “In a free state” (Jonson 4.1. 156) only serves to reinforce the fact that there are no ungoverned spaces. The creation of the small state in Lovewit’s house is no small matter — it is sedition. The boundaries created by the alchemists are as relative and as fragile as those that Faustus created with his magic circle. They exist only as a matter of consensus — and it seems that even those within the boundaries cannot agree on where they are. Just as Mammon’s plans to live more grandly than the King himself does will necessitate an involvement in the macrocosmic world, so the plan to mint Dutch coins to support the Anabaptists separatist movement in the Netherlands (Jonson 3.3. 140-162) will involve the greater European theatre. Doll Common undermines the notion that the alchemical world is separate from the political one. She definitively establishes that science is a politically active force, and the political action in this play, seems all to be seditious.

Additionally, we must not overlook that the entire action of the play takes place in a house appropriated by common rabble from a member of the landed gentry.
the popular rebellions that occurred sporadically throughout England at this time (which I will describe in greater detail later), this fact in itself is significant. Because of the growth of the unlanded merchant classes, the play could well be a metaphor for the usurping of what was traditionally the place of landed gentry by the new class of capitalistic entrepreneurs.

The three scientific entrepreneurs in *The Alchemist*, begin their political journey by appropriating a house that is metaphorically a “free state” (Jonson 4.1.156) — it is unoccupied and without a ruler. Their “state,” however, is not truly free, being situated in Blackfriars district in London, and thus subject to English laws. Nonetheless, Subtle, Doll Common, and Face establish themselves as rulers of their microcosmic state. They bolster their authority by associating themselves with the science of alchemy and proceed to defraud a number of members of their community. Through analogy, Jonson cautions his audience about the practice of science. He is concerned that it is entering his contemporary political world as an autonomous entity (which in itself was seditious), but more importantly, an autonomous entity clearly associated with political power. The exclusive nature of science encouraged isolationism, a suspension of regular political rules, and a disregard of the greater implications of the results of science. Jonson was reacting to evidence of this in his immediate milieu. Science was propagating as a personal venture, with the promise of personal wealth and power. Science, Jonson cautions through his play, could have dire consequences indeed.
Chapter Four Science and Society

Science and Society

Movement over class boundaries was a serious issue in Elizabethan and Jacobean England. The concern with maintaining social order was reflected in the sumptuary legislation which Stephen Greenblatt says reflects "the culture's fetishistic obsession with clothes as a mark of status and degree" (Negotiations 113). The legislation, combined with a "Homilie against Excesse of Apparell," which was read in churches, was primarily meant to prevent lower class pretensions to the status of gentry (McCanles 121). In other words, it "was designed to make sure that costume corresponded to social identity" (Sales 17). Both in Marlowe's play, and in Jonson's, these laws are clearly disregarded, flaunted in fact. In Doctor Faustus, sumptuary violations enable social transgressions which lead to political impropriety, while in The Alchemist, they are a means of social transformation which results in chaos. The significance of the sumptuary legislation is that it defined individual identity as socially constructed. It affirmed an individuality informed by social position and constructed through superficial, exterior qualities. Thus clothes, jargon, district of residence or size of carriage were acknowledged as signs of class. By contravening the law, people were essentially fashioning selves outside of official sanction, inventing uncontrollable and untraceable identities that could operate in a variety of supposedly circumscribed social spheres.
Maintaining the social status quo was especially important to the Elizabethan aristocracy in view of the radical threats to their inherited power base arising from new social forces. The import trade resulting from contact with newly explored areas of the world had created a powerful and rich merchant class, with no landed roots or aristocratic background. This class tended to dress well, emulating aristocratic styles, and thus assuming aristocratic identities. Protestantism had inspired peasant uprisings in Germany in the early sixteenth century, and though Martin Luther himself had repudiated this particular political interpretation of his theological doctrines, the new focus on individuality was empowering to the lower classes. By 1549, the unrest among the lowest classes had spread to England, and a large peasant revolt broke out in East Anglia and in the south west. Sporadically, peasants also rebelled in various areas from Yorkshire to Sussex (Sharpe 6). A series of natural disasters contributed to the popular unrest: in England, an outbreak of 'English sweat,' probably a virulent form of influenza reached epidemic proportions by 1550 (Sharpe 6); additionally, "between 1550 and 1600 the worst flood crisis experienced in Europe was in the years 1594-7, a time of great famine which caused severe hardships throughout the continent. Within this half century the peak period for popular rebellion was 1595-7" (Easlea 38). The religious schisms generated a new group of professional social infiltrators — what we would call spies. In England, in the late sixteenth century, these were organized under Sir Francis Walsingham as a secret service working for Queen Elizabeth I. Social stability, then, was not something the upper classes could afford to take for granted. Assaults on the status quo came from a great variety of sources. Marlowe and Jonson identify science as one of these sources.
Literature, and especially drama, played an important part in the discourses addressing social hierarchies, and the outward accoutrements which signified class. Both Marlowe and Jonson addressed these issues, as did William Shakespeare. In Shakespeare’s *Twelfth Night*, for instance, characters not only alter their class affiliation, but also their genders, simply by changing clothes. Even the king, we are told, can pass for a commoner in the right clothes (and he does in Shakespeare’s *Henry V*).

Significantly, in these plays, when nobility choose to impersonate the lower classes, the resolution involves their reinstatement as aristocrats. When the lower classes aspire to nobility, as Malvolio does in *Twelfth Night*, they are cruelly and definitively punished. This pattern reflects the belief that while outward appearances may fool people for a time, there is an innate quality of class in every individual which ensures that eventually everyone is restored to his or her proper station. This notion is upheld in both *Doctor Faustus* and *The Alchemist*. Nonetheless, the amount of time, energy and paper spent arguing for this idea suggests that it was being questioned.

**The Social Transgressions of Faustus**

In Marlowe’s play, sumptuary laws were clearly disregarded. Faustus flaunts his disregard of what in the Elizabethan world was a naturalized social hierarchy (and of English laws — though, of course Faustus was German) when he tells Mephistophilis: “Thou art too ugly to attend on me; / Go, and return an old Franciscan friar: / That holy shape becomes a devil best” (*Marlowe* 1.3.24-6). Layers of subtle suggestion obfuscate the meaning of this piece of dialogue. Superficially, Marlowe is asking the devil to break sumptuary laws, evoking the very real contemporary problem of Catholic priests who
adopted a variety of personae in order to continue their missionary work in England (Sales 15-17). By asking Mephistophilis to appear as a Franciscan, Marlowe seems to be declaring his allegiance to the Protestant Monarchy by positing a Catholic clergyman as the devil. On the other hand, Marlowe, either as a Catholic convert or as a Protestant agent, had infiltrated the seminary at Rhiems for several months in 1587 (Sales 8-10). Mephistophilis as a devil could equally then, be a Protestant desecrating and sabotaging the Catholic order from inside. The matter was further complicated by the fact that often, real clerical accoutrements, confiscated by the Protestant government during the Reformation, (Greenblatt, Negotiations 112) served as costumes for actors playing the roles of Catholic clergy. It is this sort of confusion that the laws were meant to circumvent. The government felt the need to be able to judge a book by its cover. This was necessarily related to the notion that illusion was the realm of the devil.

Sumptuary laws, and class boundaries are flaunted from the start of the play. Faustus, we learn, is no nobleman: “Now is he born, his parents base of stock” (Marlowe, Prologue 11). We are told that his erudition leads him to “a self-conceit” (Marlowe, Prologue 20), and that “His waxen wings did mount above his reach” (Marlowe, Prologue 21). The wings, like Faustus’s class identity, are self-constructed. Ingenuity and science provide Dedalus, Icarus, and Faustus with the means to transcend their limitations, but only Dedalus, who uses his technical advantage with moderation and humility, survives. Icarus and Faustus, who both use the products of science to attempt transcendence, are doomed to fail. This caution to the scientific upstarts introduces the play.
In the introductory scene, we learn that for Faustus, neither money nor fame is sufficient as a vehicle for social mobility. "Be a physician Faustus, heap up gold, / And be eterniz'd for some wondrous cure!" (Marlowe 1.1.14-15), he says to himself. Shortly thereafter, he rejects this path as inadequate to his ambitions. He is not after superficial adjustments of status. When he finally settles on necromancy as the means to this transcendence, he anticipates the rewards: "O, what a world of profit and delight, / Of power, of honor, of omnipotence / Is promis'd to the studious artisan!" (Marlowe 1.1 54-6). To the Elizabethan playgoer, the juxtaposition of power, honour, and artisan would have been striking. An artisan, in that society, had no access to power and honour. Faustus, by recognizing his artisanship is admitting that he is taking advantage of a loophole (provided by science) in the hereditary hierarchy of his society.

Science allows Faustus to move freely across social boundaries. His initial rise in status is related directly to his association with medicine. He gloats to himself:

Is not thy common talk sound aphorisms?
Are not thy bills hung up as monuments,
Whereby whole cities have escap'd the plague,
And thousand desperate maladies been eas'd?

(Marlowe 1.1.19-22)

This status is, however, insufficient for Faustus. He pictures himself a noble. Shortly after initiating this association with Mephestophilis, Faustus is adorned by the devils with attire clearly contravening sumptuary legislation. They offer him crowns, rich apparel, and entertain him with a dance. In fact, the devils elevate him socially to the level of monarch. The fact that this is their first act suggests the vulnerability of the signs signifying social
status and thus the vulnerability of a system relying on these signs as signifiers of class allegiance. It also reinforces the notion that illusion, especially the manipulation of social identity, is associated with devilry. The devil, naturally, is known as a civil agitator, having initiated the civil war in heaven and lead the rebellious angels to defeat and damnation. The association of Faustus with science, and through science with Mephistophilis and Lucifer, instigators of popular rebellion, is seminal in the play. The memory and threat of peasant revolts was present in the minds of Elizabethan playgoers. The play clearly cautions against science as an enabler of social chaos, inversion and insubordination – essentially as a threat to order.

This same caution resonates throughout the play. In Act 2, scene 4, Wagner, Faustus’s servant, having learned a little of his master’s occult science, elevates himself socially by compelling a social equal, the clown, to act as his servant. The dramatic inversion is punctuated by Wagner’s last words in the scene: “Villain, call me Master Wagner, and see that you walk attentively, and let your right eye be always diametrally fixed upon my left heel, that thou mayest quasi vestigiis nostris insistere” (Marlowe 1.4.69-72). Wagner is thus planning to manipulate the same outward signifiers of status that the government felt were worth regulating. Since he and his servant are equally poor, clothing will not serve to distinguish between them; Wagner therefore insists on a deferential posture and positioning of his servant. On another occasion, Lucifer treats Faustus to a court masque (Marlowe 2.3.111-61), again assigning him the social status of monarch. As discussed earlier, Faustus consorts with Emperor Carolus V, and with the Duke and Dutchess of Vanholt. In these social transactions, he is an interloper, a transgressor of social boundaries.
The concern with social hierarchies and the subverting nature of science was further fueled by the reassignment of worth implied in the philosophy of early science. Although it was not until the 1620s that Francis Bacon wrote his utopian tale, *The New Atlantis*, and introduced England to the concept of a society where intellect was, to a large extent, a determinant of social and political status (at least for men), the seeds of the idea were inherent in the praxis of science. Scientists were self-made; they achieved status through their accomplishments, through their manipulation of nature. To a certain extent, the exclusivity of the university system promised to endow only the worthy (those born into social status) with knowledge, yet, a popular science existed, and efforts were taken to ensure this exclusivity. Bacon's concern with "voluntaries" who dabbled in science as collectors or experimenters on a casual and interest-driven basis (Martin 108)(in the real, not the utopian world) and the strict hierarchical structure of his utopian scientific world, suggests that he was aware of the power for social mobility residing in science. Another example of reaction to this notion was the conflict between the physicians and the midwives. By the early-fifteenth century in England, the university trained male physicians (women did not have access to university education)(Easlea 37, Sheiebinger 17-20), reacting to the perceived professional and social threat of the uncontrolled scientific economy of the lower class, consisting largely of midwives, and wise women, were actively pursuing a legally enforced monopoly. The physicians of England petitioned Parliament to make the practice of medicine legal only for university trained men in 1421. Almost a century later, in 1511, their request bore fruit when "common artificers as smythes, weavers and women" (qtd. in Easlea 39) were proscribed the practice of medicine by an act of Parliament. Science then, was recognized as delivering status. The
object of the legislation was to keep science in the right hands. In Marlowe’s play we are shown how even in sanctioned and plausible hands, science can produce social subversion.

Marlowe and Bacon appeal to different naturalized visions of social hierarchies. Where Bacon suggests that an official interpreter of nature acquires virtue with knowledge, Marlowe sees that knowledge as ultimately corrupting. Bacon insists that learning “taketh away the wildness and barbarism and fierceness of men’s minds,” and that in fact, it “taketh away vain admiration of anything, which is the root of all weakness” (Advancement 55). In other words, an understanding of how things work will lead people to an understanding that things are as they should be, and make them happy to accept their allotted place in society. Marlowe’s vision obviously involves social transgressions which are catalyzed by association with the effects of science. Ben Jonson, on the other hand, divorces science from its effective activities and concentrates solely on how it functions as a social discourse.

Discourses of Social Transgression in The Alchemist

Since the alchemy in The Alchemist is a sham, the social transmutations occur as a result of metaphor and semiotics. The cozeners rely on the jargon of alchemy (and its technototems) to signify their social transmutations. They transgress sumptuary laws to support their claims to elevated social status. They build multiple elaborate social identities, all associated with science, in direct defiance of both the spirit and the letter of the laws. They use alchemical analogy and metaphor to support their status, and simultaneously, to create criminal opportunities for themselves. The focus in the play is
on how easily these signifiers of class and status are mimicked, how science facilitates this mimicry, and how potent this mimesis is.

Although the Elizabethan and Jacobean administrations seemed to be obsessed (to the point of fetish Greenblatt claims) with clothing and exterior signifiers of class, Elizabeth’s court especially, was simultaneously instigating the fashion and setting the paradigm for duplicity. Much political conversation and negotiation was conducted there in a clearly duplicitous manner. International policy often appeared under the guise of courtly love, and erotic desire. For instance, Stephen Greenblatt describes Elizabeth’s dealings with one of her favourites:

Thus Sir Walter Ralegh may have chafed at Elizabeth’s Spanish policy, wishing it more militant, but he did so only in the context of the “romance” which he carried on with his royal mistress. She was Cynthia and he was the Ocean, she was Diana and he an adoring follower, she was the heroine of a chivalric romance and he her devoted knight. (Self-Fashioning165)

Ralegh here desires an audience with the Queen to discuss foreign policy, yet must adopt a literary persona to gain it. Duplicity and deception, metaphor and style are clearly embedded in this discourse, and were a defined and accepted element in the complicated economy of communication between social spheres in Renaissance England.

Jonson found himself on occasion slipping across social boundaries, just as Marlowe had. Like Marlowe, he came from the artisan class. His father was a minister, but died before Ben Jonson’s birth. His mother remarried a master bricklayer. Jonson served briefly and unsuccessfully as an apprentice to his stepfather before deciding to join a theatre company as a writer (Bement 1). Although theatre itself was not a status
profession in Jonson's time, the playwright did become a respected writer later in his life, and was a member of an intellectual elite. He was intensely critical of his upbringing and his incomplete schooling—he felt improperly prepared for the class role he eventually embraced (Bement 4). Jonson's experience serves to establish that class boundaries were not impenetrable. In fact, alchemists (as I have already pointed out) crossed them regularly. The boundaries were, nonetheless, an area of intense social and political concern, especially on the part of the hereditary upper classes who feared displacement at the hands of a number of social groups, including, the rebelling peasants and the growing merchant class.

The treatment of apparel and class in The Alchemist, indicates a semiotic interpretation of the function of sumptuary in determining class. While the sumptuary laws operated on the assumption that class was a part of a natural and divinely sanctioned social and political structure, and thus clothes were "merely an additional code supplementary to class status," Jonson seems to see clothes as "themselves part of the semiotic system that constituted class status, which was in turn supplementary to true nobility. Consequently, while sumptuary laws tested the appropriateness of clothing against a person's birth, Jonson in true vera nobilitas fashion tested both against personal achievement" (McCanles 121).

It is this interpretation of the function of sumptuary that enables the class transmutations that occur in The Alchemist. As costume becomes a totem; discourse becomes a technototem (Hess 22). These signs define class, status, moral worth, wisdom, erudition, etc. They operate in a way analogous to the operation of ritual discourse in
alchemy. Metaphorical relationships were not recognized in alchemy; the sign and signifier were one. Brian Vickers contends that

> In the scientific tradition, I hold, a clear distinction is made between words and things and between literal and metaphorical language. The occult tradition does not recognize this distinction: Words are treated as if they are equivalent to things and can be substituted for them. Manipulate one and you manipulate the other. Analogies, instead of being, as they are in scientific tradition, explanatory devices subordinate to argument and proof, or heuristic tools to make models that can be tested, corrected, and abandoned if necessary, are, instead, modes of conceiving relationships in the universe that reify, rigidify, and ultimately come to dominate thought.

(“Analogy” 95)

Paracelsus, a prominent alchemist and philosopher, claimed that “whatsoever a Physitian can do by Medicines, may be done by words” (qtd. in Vickers, “Analogy” 138). Power to transform, heal, and generally transmute then, was vested in the signifier, rather than the signified. Illusion could, for all intents and purposes, become truth.

The three cozeners occupying Lovewit’s house are transformed, purified (in a process mimicking the alchemy they are mimicking) to greater degrees of nobility. Surly, we are informed, is a pimp and confidence artist who has developed the alchemist persona to enable better and more ambitious cozening. He dresses in robes, adopts a sepecialized jargon and a detached air. Doll Common is a prostitute who is eventually transformed into the Fairy Queen. Her transformation is essentially a function of mystery and obfuscation. It is also, perhaps, the most remarkable in the play because she was dealing
with disadvantages of not only class but also gender. I will discuss this aspect of her character in greater detail later. Face’s transmutation is less dramatic, and Surly takes credit for his cohort’s rise in social status:

 Thou vermin, have I ta’en thee out of dung,
 So poor, so wretched, when no living thing
 would keep thee company but a spider, or worse?
 Raised thee from brooms, and dust, and wat’ring pots?
 Sublimed thee, and exalted thee, and fixed thee
 I’ the third region, called our state of grace?
 Wrought thee to spirit, to quintessence, with pains
 Would twice have won me the philosopher’s work?
 Put thee in words and fashion? Made thee fit
 For more than ordinary fellowships?
 Giv’n thee thy oaths, thy quarreling dimensions?
 Thy rules to cheat at horse-race, cock-pit, cards,
 Dice, or whatever gallant tincture else?
 Made thee a second in mine own great art?
 And have I this for thank? Do you rebel?
 Do you fly out i’ the projection? (Jonson 1.1.64-79)

Face, it seems, is in the process of an alchemical transmutation. He is on the brink of projection (the culmination of the alchemical process) and stands to become the social quintessence of his former self—he is about to become as noble as it is possible for him to be. Subtle has ennobled him by teaching him to be a gentleman. He has taught him to
dress and speak like a gentleman, to cheat at various forms of gambling like a gentleman, and to argue and swear like a gentleman. For all three cozeners, the comical and critical assessments of the signifiers of class are juxtaposed with the process of alchemical sublimation and ennoblement. The transmutation of Subtle, Face, and Doll is metaphorical and analogical, and, in view of the reactions of the gulls, quite real.

The gulls themselves are the subjects of a social quasi-alchemical transmutation, just as the cozeners are. Drugger walks in a young pharmacist, and soon aspires to marry a wealthy young widow. Kastril aspires to fit in with urban gentry (like Face, he is taught to argue and swear). Dapper aspires to become a courtier with the Fairy Queen. Mammon hopes to become the envy of all monarchs when he acquires the philosopher’s stone and is able to transmute whatever he wants into gold. Even Surly, the doubter, is transmuted when he returns to the house disguised as a Spanish nobleman “unintentionally demonstrating that even the most unpromising material can be transmuted upward” (Jackson 135). Eventually, even the owner of the house, Sir Lovewit, is transformed, albeit quite aware of the process, into yet another Spanish nobleman intent on winning the hand of Dame Pliant.

The science of alchemy, we are told, transforms social boundaries from restrictive enactments of natural law into negligible inconvenience. It enables transgressions which in turn encourage fragmentation. The esoteric jargon of alchemy creates a power base which deprives the gentry (like Mammon) of money while enriching pimps, prostitutes and servants (like Subtle, Doll, and Face). It facilitates the displacement of gentry (like Lovewit) by the lower classes (the cozeners who steal his house). It results in confusion and fragmentation—as is played out by the neighbours out on the street before Lovewit’s
house, and inside the house when Surly’s Spanish meets Subtle’s alchemical jargon. Alchemy institues social chaos.

In *The Alchemist*, alchemical transmutation is a metaphorical vehicle for social transgression. Alchemy’s role in enabling the transformation of the cozeners from petty thieves into respectable and significant members of society is continually foregrounded through metaphor and analogy. In fact, the venture tripartite acts as a social philosopher’s stone, transforming the gulls into nobler versions of themselves. The metaphorical links forged, and continually reinforced through conceit, bind the concepts of science and social disorder, expressing a serious misgiving about the potential for social disruption inherent in an autonomous base of power. The ease with which the cozeners appropriate the signifiers and thus the authority of alchemical science, suggests that it is a serious threat to social stability.

**Gender and Science**

The societal focus on gender roles and the inversion of gender roles in Elizabethan and Jacobean England was due partly to the reigns of two queens: Mary and Elizabeth Tudor. Elizabeth was especially influential in the late-sixteenth and early-seventeenth centuries, because her rule spanned much of that time (from 1558 to 1603). The queen was in a very difficult situation; her rule was not uncontested. In 1558, John Knox published the widely read and very influential *The First Blast of the Trumpet against the Monstrous Regiment of Women*. In this manifesto, he refuted the right of women to hold public office using arguments based on scriptural analysis. According to Knox, his attack was aimed at Mary Tudor and Mary Stuart, but Elizabeth I was said to be infuriated by the
publication (Shephard 21). Knox’s work was part of a lively polemic dealing with the theological, political and social implications of female monarchy. Popular knowledge (common sense) seemed to indicate that women were not fit to rule over men. Henry Smith succinctly represented popular opinion in his A Preparative to Marriage, printed in 1591, when he wrote that God had made “the man to travail abroad, and the woman to keep home” because “their nature, and their wit, and their strength are fitted accordingly” (qtd. in Shephard 13). Smith’s statements are symptomatic of a general concern, not only with gender relations, but with the greater issue of order. What we would now call feminist tracts were beginning to appear in England in the latter half of the sixteenth century and argued on natural, moral, and biblical grounds against the presupposition of female inferiority. They were written in response to this institutionalized and popularized misogyny, some were even written by women, (Jane Anger and Margaret Tyler notably). This fueled the need of those concerned with maintaining order to ground societal gender biases in natural philosophy.

Natural philosophers looked to nature to support and affirm societal beliefs, and so interpreted their observations accordingly. Thus, a scientist examining the human reproductive process, interpreted observations to support societal misogyny. The Problemes of Aristotle, a popular medical guide from the period, describes human reproduction viewed, obviously, through a filter of social misogyny:

The seede is the efficient beginning of the childe, as the builder is the efficient cause of the house, and therefore is not the materiall casue of the childe... The seedes are shut and kept in the wombe: but the seede of the man doth dispose and prepare the seed of the woman to receive the forme,
perfection, or soule, the which being done, it is converted into humiditie, 
and is fumed and breathed out by the pores of the matrix, which is 
mansfist, because onely the flowers for the woman are the materiall cause 
of the young one. (qtd in Montrose 43).

The woman’s contribution is thus patently inferior. It is the man’s contribution that 
actually causes the child to be, invests it with divinity and perfection, then leaves to let it 
mature or incubate in the woman’s abdomen. The study of and speculation about nature 
was littered with conclusions like the one discussed above, which inscribed social values 
on physical processes. As with class affiliation, nature was seen as supporting socially 
imposed hierarchies. Even the queen acknowledged her own basic physical inferiority. In 
a prayer she wrote, she thanks God for “pulling me from the prison to the palace and 
placing me a sovereign Princess over thy people of England. And above all this making 
me, (though a weak woman) yet thy instrument, to set forth the glorious Gospel of thy 
dear Son, Jesus Christ” (qtd. in Bassnett 98). Louis Montrose describes a speech to her 
troops (who were awaiting a Spanish invasion) in Tilbury, in 1588, in which she “dwelt 
upon the womanly frailty of her body natural and the masculine strength of her body 
politic—a strength deriving from the love of her people, the virtue of her lineage, and the 
will of her God” (Montrose 47). She spoke from her seat upon a white horse, clad in 
virginal white velvet. She said: “I have always believed myself that, under God, I have 
placed my chiefest strength and safeguard in the loyal hearts and good will of my 
subjects... I know I have the body of a weak and feeble woman, but I have the heart and 
stomach of a king, and of a king of England too” (qtd. in Montrose 47). Thus, although 
there was an element of society which questioned the basic inferiority of women, this
inferiority was nonetheless the accepted view.

Doll Common’s Uncommon Influence

In light of the societal biases against women, Doll Common’s equal participation in the “venture tripartite” is all the more significant. Alchemy allows her to play an equal and strikingly powerful role among the cozeners, even though it was a scientific discipline which did not permit the participation of women. The jargon of alchemy itself basically excluded women from the practice. It was composed largely of Greek, Latin, and hermetic codes. Classical languages were taught at various levels of schooling, but women were generally not permitted to study them. Alchemists were well aware of this, and purposefully made their jargon inaccessible to women. Paul de Skalich defended this practice in 1555, worrying “lest the arcane and secret doctrine of the wise should fall into the hands of fools, and should allow unlettered or biased men, or even women, or butchers, or artisans, or farm workers to enter into disputes about the highest mysteries of faith” (qtd. in Maclean 235). Science generally, was seen as a masculinist pursuit, its social organization informed by the medieval monastic tradition (Hess 82). Nonetheless, in The Alchemist, an integral part of the “venture tripartite” is female. Partially, this is due to the alchemical conceit that acts as a spine to the play. A female element is necessary to enable the projection. Alchemy itself then, is identified as a partially female force, and thus is enfranchising to the female operating within the alchemical metaphor. Ben Jonson’s The Alchemist is a literary manifestation of anxiety about the transcendental power of the science of alchemy and its possible applications to gender relations.
The alchemical conceit, woven into the fabric of the play, empowers Doll Common to act as an equal to her pimp, Subtle, and their cohort, Face. As I discussed earlier, the process of producing the philosopher’s stone was viewed as a sort of marriage, between mercury, a female element, and sulphur, a male element and salt, a fixing agent. Before the actual “mystic marriage” takes place, the elements are said to be attracted to each other (Jackson 123). Significantly, all three elements are indispensable, and equally important in the mix.

Doll then, as a woman and as an object of sexual desire, is necessary to transform Lovewit’s house into an alchemical workshop, to transform the gulls into money, and to transform the cozeners into powerful people. Both Face and Subtle are aware of her importance, and heed her threat when she intervenes in their argument by saying: “Or, by this hand, I shall grow factious too, / And take my part and quit you” (Jonson 1.1.140-41). In order for the transmutation to work, they must be in accord. Doll reminds them of this: “Fall to your couples again, and cozen kindly / And heartily and lovingly as you should” (Jonson 1.1.137-38). Her cohorts agree then, that they have equal parts in the venture, and that the venture will not succeed unless they recognize this. She calms Subtle with that thought: “Why, if your part exceed today, I hope / Ours may tomorrow match it” (Jonson 1.1.146-47). The social structure within the “venture tripartite” then, is truly democratic. Doll has an equal voice, an equal share of the responsibilities and will have an equal share of the profits. In the patriarchal climate of Jacobean society, this arrangement would have been striking and noteworthy.

Doll’s equal part in the venture is foregrounded throughout the play. Her intervention in the quarrel between Subtle and Face provides her with the opportunity to
graphically demonstrate her power and confidence, as the stage directions explain that
“*She catcheth out Face’s sword and breaks Subtle’s glass*” (Jonson 1.1. 115-6) and subsequently threatens them with: “*I’ll cut your throats*” (Jonson 1.1.119). Even in a theatrical setting, these would have been appallingly inappropriate actions for a woman. The queen, after all, had had the advantage of God’s backing to bolster her manly attributes of character. Doll Common has only the empowering metaphorical presence of alchemy. Later in the play, when Dame Pliant is introduced, and both Subtle and Face decide to pursue her, they conspire to keep this knowledge from Doll (Jonson 4.3. 6-14). Dame Pliant is a direct threat to the alchemical marriage, and thus to the “venture tripartite” and the power base for all three cozeners. It is Doll, however, whose wrath they fear, and whose participation in the venture they hope to ensure.

Dame Pliant, the only other woman in the play, is juxtaposed with Doll Common in Lovewit’s house. Doll, as I have pointed out, is feared. She is unpretentious and direct, willful and confident. Dame Pliant, as her name implies, provides a clear contrast for Doll. When her brother, Kastril, threatens to kick her unless she loves the Spanish lord she is about to meet (she has stated unequivocally that she could never “*brook a Spaniard*” (Jonson 4.4. 28)), she quickly accedes and modifies her affections (Jonson 4.4. 36). Although she is the object of much activity and lust in the play, she speaks only nine lines. William Slights notes that:

> By way of contrast, Dol Common will noisily arrogate to herself all the power that the alchemical, religious, literary, and criminal *arcana* at her disposal will allow. Behind her painted face and polysemic virtuosity of
speech lie the ambitions of the New Woman, who will forcefully assert her
grow power in the quest for the new, liquid assets of the city. (106-7)

It is precisely this sort of woman, that Jonson warns the reader against in his dedication to
Lady Mary Wroth when he mentions “ambitious faces of the time; who the more they
paint, are the less themselves” (Jonson, Dedication 23). Alchemy has provided Doll with
the means to indulge her ambition, to paint her face and become someone powerful, rich,
and desirable. This, in Jonson’s time, was a direct threat to social stability which
depended on the unquestioning submission and obedience of the lower classes and of
women.

In an age when lower class prostitutes lived harsh and dangerous lives this
scientific confidence game was an incredible opportunity for Doll Common. Outside of
this lifestyle, she would have the choice of living and working in a brothel, from which she
would be expelled as soon as she developed the first symptoms of the pox, or syphilis,
(which was newly introduced and spreading rapidly in England), or of working on the
streets of London. The social mobility of low class prostitutes was still restricted at this
time; they were not interchangeable with courtesans, whose education and training
provided a means of social and economic advancement (Bullough and Bullough, 139-56).
Moreover, they were considered commodities, to be used by gentlemen, and left at their
station in life. In fact, during the reign of Elizabeth I, most lower class women, especially
those employed in inns were treated as prostitutes by upper class men, who failed to
distinguish between those who were and those who were not. 40 Doll Common’s
association with alchemy then, truly transforms her life. In modern terms this is a laudable
achievement. In the context of early-seventeenth-century England, it is seditious.
Making Mrs. Right: A Wife for Faustus

Unlike *The Alchemist*, Doctor Faustus is notable for its lack of female presence. Curiously, there are no live women in the play. After a short bout of intellectual exchange with Mephastophilis, Faustus asks the demon to fetch him a wife. The scientific prowess of Mephastophilis, it seems, is not up to the task. He offers Faustus a devil in women's clothing. The meaning of this short exchange is ambiguous. Helen Gardner searches for clues in the English Faust Book, and interprets the scene as a paradigm for Faustus's interactions with the devil: he is continually refused. I suspect though that the clue lies with the other woman in the play, Helen.

Helen is a construct, a result of conjuration, a scientific artifact. She is invoked by Faustus in his eleventh hour, and within minutes is asked to bear the responsibility for his impending doom. “Sweet Helen, make me immortal with a kiss;” he begs (Marlowe 5.1. 93). Later he implores “Come Helen, come, give me my soul again; / Here will I dwell, for heaven be in these lips, / And all is dross that is not Helena” (Marlowe 5.1. 95-97). Trusting one last time in the efficacy of his occult science and its products, he invests the ghost of Helen with enormous significance, and again, he is disappointed, as Helen does not save him from damnation. The play leaves one wondering if a real relationship with a real human would have prevented Faustus's demise, however speculation about characters and events that did not happen in a play seems fruitless. Science produced a dream woman for Faustus, and she turned out to be just that, an imaginary projection. Her only significance is the power that Faustus ascribes to her, and we learn in the end that Faustus was mistaken, and Helen unable to save him. As a scientific artifact, Helen was built as a
last resort, and promised salvation. Like Faustus’s other scientific endeavours, she proved an ineffective illusion.
Chapter Five Conclusion

Science, in both The Alchemist and Doctor Faustus, is a seditious force. Operating outside of governmental, religious, and social regulation, it actively subverts the regulatory superstructures of the English Renaissance world. It discredits religion, applying empirical reasoning to the ineffable mysteries of faith, and finding them lacking, or worse yet, false. It mimics the secular functions of religion, appropriating the dignity and authority of the church. It functions autonomously, enabling political activity on an individual basis. Its great political potential is universally available, delivered through a knowledge of or an association with the discipline. By functioning autonomously, science permits autonomous political activity. It also disables hereditary social structures, facilitating easy transgression of social boundaries and potentially unlimited upward social mobility. Not even the conventions (supposedly based in natural paradigm) of gender relations are inviolable to science. Its effect is egalitarian. In these plays, science is a source of very dangerous sedition.

The didactic qualities of the plays ensured that every time The Alchemist or Doctor Faustus was performed, this cautionary message was delivered. The plays operated like a manifesto, setting out the potential dangers of accepting science as an entity, autonomous by nature and definition, operating outside of the regulatory functions of society, government, and religion. Science promised chaos; it promised to attack the very structures which maintained and defined the late-sixteenth- and early-seventeenth-century English world. In the plays, science deconstructs and then emulates the social,
political, and religious signifiers of power. It enables lower class characters access to wealth, fame, and power, and to moral and social approbation. The plays warn that science has the potential of changing the world, and thus of changing a structure that God intended for the world.

This message was poignant and relevant to contemporary playgoers. During the previous hundred years, Europe and England had been subjected to floods, famine, peasant rebellions, and religious schisms. The expanding economy had created a new class of citizens, a wealthy merchant class which was in the process of defining its own limits. New parts of the world were being discovered and new wealth was flowing into European and English coffers. Society, religion, and politics were already changing; the stability of the status quo was shaky at best. Science threatened an already weakened system.

In both The Alchemist and Doctor Faustus, the discussion of science is made moot by the fact that Faustus and the cozeners fail to fulfil their ambitions. Faustus, for all his atheism and defiance is damned; Subtle, Doll Common, and Face are summarily displaced by Lovewit, the returning master of the house. All the speculation and deconstruction eventually leads back to the immutability of the church, of the monarchy, and of social order. Both plays end with a resounding endorsement of things as they are, or rather were, and a naïve affirmation of their essential correctness. Science, in Jonson and Marlowe’s time, is less than a fulfilled ambition—it is a work in progress, a potential for something great and devastating. In retrospect, the plays can easily be seen as a sort of reactionary foot-stomping protest against an inevitable tide of change, but in context
they are the essential parts of the arguments surrounding the initiation of the social, religious, and political forces we have come to call science.
Notes

1 Bacon speculates about the attraction of various substances (including the loadstone or magnet):

There is formed in every thing a double nature of good: the one, as every thing is a total or substantive in itself; the other, as it is a part or member of a greater body: whereof the latter is in degree the greater and worthier, because it tendeth to the conservation of a more general form. Therefore we see the iron in particular sympathy moveth to the loadstone; but yet if it exceed a certain quantity, it forsaketh the affection to the loadstone, and like a good patriot moveth to the earth, which is the region and country of massy bodies... (Advancement 148-9)

2 This particular phenomenon was affirmed as part of nature because there was a biblical precedent for it. Satan was said to have transported Christ to a mountain top in the New Testament (Easlea 42).

3 Scot was a Protestant Kentish county squire and hop grower. He was educated at Oxford and published the anti-demonic The Discoverie of Witchcraft, in 1584. In it he suggests that the persecution of senile old women for consorting with the devil is ridiculous, and that under threat or implementation of torture, women could be made to confess to anything. He also warns against the adoption as true of any opinion long held: "truth must not be measured by time: for everie old opinion is not sound" (qtd. in Easlea 19-20). From a modern perspective, this view is ironic considering his own recitation of the physical manifestations of natural magic.
Elizabeth I was not alone among European royalty in keeping an astrologer and alchemist at her court. Emperor Rudolph II of Bohemia, for instance, kept a large group of alchemists at his court in Prague including John Dee, at one point and his associate Edward Kelly. Kelly claimed to have discovered a magic powder that would transform base materials into gold, and was appealed to (on patriotic grounds) by Lord Bughley, one of Elizabeth’s advisors to return from Bohemia and work for the Queen. Kelly refused, and eventually was imprisoned in Bohemia and died in an escape attempt in 1597. Many European leaders believed that the secret of transforming base materials to gold would be discovered very shortly (Bassnett 63-4).

Haraway writes about “situated knowledge” as a paradigm for feminist science. She denies the existence of any truly objective knowledge, and strives for objectivity of a sort within an acknowledged discursive position. Knowledge then is constructed at the intersection of discourses, and these points of intersection become active sites for temporary alliances leading to political, social, scientific, etc. activity (Haraway 183-201).

In terms of historiography, the traditional view of history as fact, privileging certain cultural expressions and not others, is problematic. To new historicists, all historical knowledge is situated discursively, and literature is a valid source of situated historical knowledge about the culture which produced it.

In The Cheese and the Worms: The cosmos of a Sixteenth-Century Miller, Carlo Ginzburg describes the intellectual milieu of an Italian miller named Domenico Scandella (alias Menocchio), who was tried for heresy in 1584. Most of Menocchio’s heretical ideas
were a result of his surprisingly extensive and eclectic readings. He admitted to buying and borrowing books and pamphlets from various sources. The books mentioned at his two trials were: The Bible (in vernacular); Il Fioretto della Bibbia (which included several apocryphal gospels); Il Lucidario della Madonna, by Albert da Castello; Il Lucendario de santi, by Jacopo da Voragine; Historia del giudicio (an anonymous poem); Il cavallier Suanne de Mandavilla (the Italian translation of the story of the travels of Sir John Mandeville); Il sogno dil Caravia; Il supplimento delle cronache a compilation of works by Jacopo Filippo Foresti; Lunario al modo di Italia calculato composto nella città di Pesaro dal ecc. Mo dottore Marino Camilo de Leonardis; and the Decameron of Boccaccio (29).

Even before Martin Luther ushered in the Reformation in 1517, the church recognised the need to address and consolidate controversial doctrinal issues. Luther himself hoped for a council that would reform the church and prevent it from fractioning. However, there was a great deal of resistance from church leaders, who felt that such a council would undermine the authority of the pope. Additionally, Lutheranism quickly became a political force that caused difficulties for secular rulers (Emperor Charles V, for instance). Other secular leaders were reluctant to support a church council, fearing that it would alleviate these difficulties, and thus strengthen their opponents. Pope Paul III was elected in 1534 partly because he promised to convene a council and address the pressing issues as soon as possible. He did so after several unsuccessful efforts (at Mantua in 1537 and Vicenza in 1583)(O’Malley).

The Advancement of Learning was published in 1605, and the Novum Organum did not appear until 1620.
Marlowe's own religious affiliation is difficult to ascertain. He was expected to become a minister after graduating with an MA from Corpus Christi College, Cambridge. He was attending with a Parker scholarship, which was intended primarily to train clergymen. Marlowe's attendance in his final years became erratic, and he was absent altogether for several months in early 1587. Later, a Privy Council document suggested that he had gone abroad to Rheims to study at the seminary and convert to Catholicism. However, there is some speculation that he was already acting as an agent of Queen Elizabeth's government, and under the guidance of Sir Francis Walsingham, was infiltrating the seminary to expose Catholic activity in England (Sales 5-10).

The 1604 and 1616 dates are associated with the two extant quarto editions of the play. Although most scholars agree that the play suggests intertextual relations with the English Faustbook, published in 1592, some claim that the play may have been written as early as 1588. The legend of Faust was well known and popular throughout Europe and many versions of the story had been circulated in a variety of forms since the death of the historical Dr. Faustus around 1530 (Keefer iv).

For a full discussion of the deletions, rearrangements and substitutions of portions of the play at various times, see Keefer — Introduction, iv-xxvii.

Marlowe's Faustus, notably, does not include any reference to Copernican astronomy. Copernicus's work, *De Revolutionibus* was published in 1543 (the year of its author's death) by a Lutheran printer in Nuremberg. It was a highly technical mathematical work, which probably few understood. Nonetheless, by Marlowe's time, it was a pan-European topic of astronomical debate. Tycho Brache, whose life spanned the second half of the
sixteenth century was a lifelong opponent of Copernican astronomy, claiming that though Copernicus may have been right about planetary motion, he was dead wrong about the Earth's motion (Khun 200-6). Johannes Kepler, whose first major work was published 1596, was a great supporter of Copernicanism. At the later end of Marlowe's life, Galileo was beginning to advocate Copernican cosmology.

Among Luther's followers was Melanchthon, who wrote in 1549:

The eyes are witnesses that the heavens revolve in the space of twenty-four hours. But certain men, either from the love of novelty, or to make a display of ingenuity, have concluded that the earth moves; and they maintain that neither the eighth sphere nor the sun revolves... Now, it is a want of honesty and decency to assert such notions publicly, and the example is pernicious. It is the part of a good mind to accept the truth as revealed by God and acquiesce in it. (Melanchthon qtd. in Khun 191)

This deference to empiricism is evident again when the following exchange occurs in the play:

Faustus: How many heavens or spheres are there?
Meph: Nine: the seven planets, the firmament, and the empyreal heaven.
Faustus: But is there no coelum igneum, et crystallinum?
Meph: No Faustus, they are but fables. (Marlowe 2.3.60-4)

Here the theory that there were spheres which did not carry observable objects, but which affected the movements of the other spheres is repudiated.
Illusion as a theatrical creation was a contested issue during Marlowe’s time. D.J. Palmer discusses the seemingly excessive use of spectacle (special effects) in Marlowe’s plays. He suggests that in Doctor Faustus, the theatricality served several purposes: “Theatrical trickery is certainly stuff to thrill the groundlings, but the same exploitation of Faustus’ supernatural powers in terms of dramatic illusion also underlies those moments of poetic rapture and tragic grandeur that constitute Marlowe’s supreme achievement” (200). Palmer does not mention another obvious purpose for the foregrounding of the illusory and theatrical nature of the play. The growing political presence of the Puritans in Marlowe’s England spelled a serious threat to the whole theatrical industry. Puritans opposed, and eventually, during the interregnum, abolished theatre altogether. In the second half of the sixteenth century, many playwrights (Shakespeare and Jonson among them) included anti-Puritan innuendo in their plays. Marlowe, by writing a play about illusion, utilizing obvious illusion was thumbing his nose at the anti-theatrical Puritans. Helen Gardner speculates that the problem with Faustus’s reasoning stems from his basic assumption that he is spirit and not flesh. After his pact with the devil then, he thinks he is spiritually fixed, like Mephistophilis (325-6).

In 1593, just before his death, Marlowe was ordered to appear before the Star Chamber, due to charges laid against him by Richard Baines and Thomas Kyd (Kyd’s accusations appear to have been extracted on the rack). He was accused of blasphemy and atheism for having allegedly argued:

That the woman of Samaria and her sister were whores and that Christ knew them dishonestly.
That St John the Evangelist was bedfellow to Christ and leaned always in
his bosom, that he used him as the sinners of Sodom. (Bains qtd. in Sales
42)

Roger Sales explain that “Marlowe’s otherness is constructed in religious, political and
sexual terms. The ‘sodomite’ was, by definition, also an atheist and political traitor”
(Sales 43).

18 Pamela Smith points out that for the ruling classes, alchemy was related directly to
reputation. Since monarchs were thought to be divinely sanctioned, alchemical
transmutation was considered a reaffirmation of this sanction. Discussing the alchemical
patronage of Habsburg emperor, Leopold I, Smith notes: “Because alchemical knowledge
was known to be revealed only to the most pious and success in transmutation was
granted only to individuals of exceptional moral probity, it was proof of the humility and
piety of the Catholic emperor that God granted transmutations at his court” (8-9)

19 Joan Drake, (who died in 1628) a seemingly reluctant and melancholy Puritan who lived
in Blackfriars (where The Alchemist is thought to have been first produced ) was
influenced by the play. Her puritan biographer, John Hart, when discussing the play and
its influence on the lady, added marginal annotations such as: “A new invention of Satan,”
and “Another of his subtile devices” (qtd. in Pritchard 95).

20 Puritans were ridiculed and often treated brutally in Elizabethan and Jacobean dramas.
In Shakespeare’s Twelfth Night, for example, the Puritan, Malvolio is punished severely
for aspiring to climb socially by marrying Olivia.
21 Jonson converted to Catholicism while imprisoned in 1598. He reverted to Protestantism in 1610, the year this play was first published and presumably, performed.

22 Hermeticism was closely associated with alchemy. It involved the writings of Hermes Trismegistus, which were translated from the Greek by Marsilio Ficino in 1463. Until the later seventeenth century, scholars thought that Trismegistus was an Egyptian contemporary of Moses. It was later discovered that the writing originated in second to fourth centuries AD.

23 Jonson also was aware of discourses which lend authority. In his prologue to the play, he insists that his aim is to “better men” (Prologue 12). His didactic purpose within a comic frame firmly links him with Horatian literary principles: he wants to delight and instruct. Thus Jonson is establishing himself as an author writing in the classical tradition. His dedication Lady Mary Wroth, Sir Philip Sidney’s sister, further helps to establish him as a legitimate playwright with very serious aims. This lends weight and authority to his writing.

24 Primero and gleek were card games.

25 A famous thirteenth-century English Franciscan scientist, philosopher, and alchemist.

26 Bacon’s later work, especially his utopian parable, New Atlantis, indicated that his plan for scientific education was very hierarchical. In New Atlantis, Bacon describes an isolated island community with a patriarchal scientific government. Salomon’s House, named after the founder of the 2,000 year old institution, is essentially a patriarchal scientific college. It is organized along very strict hierarchical lines, with a substantial number of junior members who collect observations and perform experiments under the direction of senior
scientists who in turn report to three “Interpreters of Nature.” (Bacon, New Atlantis 244-6) These scientists control everything from landscaping and waterworks to marriage customs and local transportation. In the real world, Bacon posited science as a branch of secular authority, a state enterprise of sorts.

27 A man with horns on his head was a common Elizabethan metaphor for a cuckold. The insult to the knight, though uncomfortable, was not even appropriate, as apparently the man was a bachelor (Marlowe 4.1, 70-75).

28 Anabaptists had been involved with the peasant wars against the Habsburg rulers in the 1520s, and were actively persecuted in Switzerland and Germany.

29 The laws revealed a general angst about social and political interlopers. People who contravened the laws were thought to be seditious in some way. Typically Catholic priests flouted this legislation, while working as missionaries in Protestant England, confidence artists regularly impersonated soldiers, the men implicated in the Babbington plot dressed as commoners and met to conspire in low-class taverns (Sales 13-18). Marlowe himself played many roles in his short career with the secret service. The point is that there was a great deal of uneasiness about the idea that the outward appearance of a person may not define who they are. As I mentioned earlier, illusion was commonly held to be the mark of demonic involvement (Clark 224).

30 In 1525 a great peasant rebellion took place in the German provinces of Swabia, Franconia and Thuringia. The peasants argued that they should no longer be owned as property, since as Luther had informed them, “Christ had purchased with his own blood the freedom of all Christians.” (Greenblatt, Self-Fashioning 7). Luther replied in his
pamphlet, "Against the Robbing and Murdering Hordes of Peasants" that the peasants should be summarily killed, as "nothing can be more poisonous, hurtful, or devilish than a rebel." (qtd. in Greenblatt, Self-Fashioning 7). Over 100,000 peasants were killed in the aftermath of the rebellion.

31 Theatre companies were well aware of the signifying function of clothes and a good deal of their expenditures went towards buying costumes. Significantly, stage convention dictated that disguises were impenetrable.

32 John Ballard, a priest implicated and eventually executed for his part in the Babington plot, often dressed extravagantly and used the alias: Captain Fortescue. John Gerard, another infiltrator priest dressed and lived as a courtier, often gambling to prove his dissolute nature. In 1610, Cholmely's Men, a touring theatrical company, was suspected of "allowing priests to disguise themselves as actors so that they could be smuggled between the homes of Catholic gentry in Yorkshire" (Sales 16).

33 Stephen Greenblatt explains that "during the Reformation Catholic clerical garments—the copes and albs and amices and stoles that were the glories of medieval textile crafts—were sold to the players. An actor in a history play could conceivably have worn the actual robes of the character he was representing" (Negotiations 112).

34 This is ironic since Marlowe himself was an interloper in many of his later social circles. He was born into a family of tradesmen; his father was a member of the shoemakers' guild. He received scholarships throughout his education, allowing him to finally study at Corpus Christi College at Cambridge. Instead of pursuing a career in the church, as was expected of him, he chose to join the secret service under Francis Walsingham. While in
the service he was often called upon to play the role of a nobleman, and to consort with his social superiors.

35 Wagner speaks in prose in this scene. Theatrical convention held that lower class characters in dramas speak in prose while their social superiors speak in verse.

36 Loosely translated “as if walking in my footsteps.”

37 Jonson confessed to a friend that he himself had disguised himself as an astrologer, (using a robe, a false beard, and a few candles) and played a confidence game involving a lady (Bement 6).

38 The Knox debate raged for almost half a century, and was just one, albeit a very significant one, of a series of debates concerning the reign of women. The debate was prompted by the political careers of Mary Tudor (Bloody Mary) and Mary Stuart (Queen of Scots), both Catholic queens. Knox’s publication appeared shortly before the death of Mary Tudor, and greatly angered Elizabeth I, her Protestant half sister, and heir to the throne. Ironically for Elizabeth, the chief opponents of Knox’s Protestant misogynistic political vision were Catholic. Amanda Shephard examines three responses written by Catholics and two by Marian exiles in her book on the topic (Shephard).

39 Jane Anger and Margaret Tyler both wrote what we would call feminist tracts in the last quarter of the sixteenth century. While the identities of these women remain unclear, Tyler is thought to be a member of, and possibly a servant in the household of the Howard family – a prominent Catholic family implicated in the Ridolfi assassination plot against Elizabeth I. Not much is known about Jane Anger, except her sex and that she wrote polemic feminist tracts (Ferguson 51-73). Both women were, however, participating in an
existing discourse, and the rights granted to and restrictions placed upon women in
Elizabethan society were certainly topics of much thought and discussion.

Vern and Bonnie Bullough describe attempts to legislate against this practice:

Some attempt to deal with this involuntary prostitution was made during
Queen Elizabeth’s time by legislation that stipulated that no laundress or
waitress could enter a gentleman’s chamber in a public inn unless the
woman was past forty years of age; that under no conditions could any
other maidservant go into a gentleman’s room; and that those gentlemen
found in compromising positions were punished instead of the women they
were found with. Like most such legislation dealing with prostitution,
however, it was only rarely enforced since males did the enforcing.

(Bullough and Bullough 174).
Works Cited


Ellis-Fermor, Una M. “Faustus” 1927. Ribner 63-86.


Martin, Julian. “Natural Philosophy and Its Public Concerns.” Pumfrey, Rossi and Slawinski, 100-118.


Pritchard, Allan. “Puritans and the Blackfriars Theatre: The Cases of Mistresses Duck and Drake.” _Shakespeare Quarterly._


Rossi, Paolo L. “Society, Culture and the Dissemination of Learning.” Pumfrey, Rossi and Slawinski, 143-75.


Slawinski, Maurice. “Rhetoric and Science/Rhetoric of Science/Rhetoric as Science.”
Pumfrey, Rossi and Slawinski, 71-99.

Slight, William W.E. Ben Jonson and the Art of Secrecy. Toronto: U of Toronto P,
1994.

Smith, Pamela H. “Alchemy as a Language of Mediation at the Habsburg Court.” Isis.

Vickers, Brian. “Analogy versus identity: the Rejection of Occult symbolism, 1580-
1680.” Vickers 95-163.

---, ed. Occult and Scientific Mentalities in the Renaissance. New York:

Wilson, Catherine. “Visual Surface and Visual Symbol: the Microscope and the Occult