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Reading the Latent Content of Alchemy
in William Shakespeare's *Othello*

Sarita Rich

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Arts

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ABSTRACT

Reading the Latent Content of Alchemy in William Shakespeare's *Othello*

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While many of Shakespeare's alchemical allusions are noted for their language of positive regeneration and healing, the playwright's departures from these conventional uses of alchemy deserve further attention. This essay presents an examination of inversions in the redemptive alchemical paradigm of *Othello*, a play whose connections to alchemy are not announced by obvious references to gold making, the philosopher's stone, or other key terms relating to the discourse of the opus that a modern audience is likely to recognize. I argue that in *Othello*, alchemical allusions are more subtly deployed in the language that describes Othello and Desdemona's marriage, in the metaphorical speech of Othello's self-doubt, in Desdemona's characterization, and in Iago's references to medicine. My reading of the alchemical context of the play shows the following: Othello and Desdemona's marriage, a figurative manifestation of the hermaphroditic union in which man and woman consistently appear as equals, counters representations of patriarchal dominance in the early modern period; Othello's capacity for rhetorically gifted expression remains intact instead of disintegrating, as evidenced by the alchemical metaphors in his lamentations of the "loss" of Desdemona's purity; Desdemona's role in the tragedy is illuminated by her characterization which is reminiscent of dual Mercury; and Iago's own alchemical language offers insight into his role as the instigator of tragic events. Taken together, these alchemical associations suggest that Shakespeare found in alchemy a fitting framework in which to present the drama of destabilization.

Keywords: Shakespeare, alchemy, alchemist, *opus*, inversion

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Introduction

Othello's absence in discussions of alchemical references in Shakespeare's works is not surprising, given that the play makes no explicit mention of gold making or the philosopher's stone, the two ideas likely to be most readily associated with alchemy in the minds of a twenty-first century audience. Consequently, the alchemical import of the play's language, such as the lines of Brabantio's accusation that *Othello* corrupts and steals Desdemona by "spells and medicines bought of mountebanks," or fraudulent vendors of alchemical wares, is easily overlooked (1.3.61).¹ While the reference may seem casual, it is part of a thematic pattern of inversions in alchemical allusion, or more specifically, reversals of the redemptive alchemical allusion in Renaissance literature and poetry. I argue that alchemy exerts its presence in *Othello*, but that it does so without the redemptive promise apparent in Shakespeare's other plays and sonnets that make use of the alchemical language of transformation that affects positive regeneration.

An Alchemical Lens for *Othello*

Alchemy is back in vogue. As Lawrence M. Principe states in his introduction to *Chymists and Chymistry*, alchemy is "a hot topic" because scholars no longer doubt its role as the forerunner of modern chemistry, and focus instead on "the specifics of alchemy's content,

¹ All quotations from Shakespeare are from *The Riverside Shakespeare*. Brabantio invokes all the pejorative associations linking fraudulent alchemists to mountebanks, who receive a colorful treatment in Ben Jonson's *Volpone*, in which Peregrine calls them: "quack-salvers, / Fellowes that live by venting oils and drugs . . . most lewd impostors, / Made of all terms and shreds; no less beliers / Of great-men's favors than their own vile medicines; / Which they will utter upon monstrous oaths: / Selling that drug for two pence, ere they part / Which they have valued at twelve crowns before" (2.2.5-19). Further, the OED describes a "mountebank" as follows: 1. a. "An itinerant charlatan who sold supposed medicines and remedies, freq. using various entertainments to attract a crowd of potential customers. Later also (more generally): an itinerant entertainer."

contributions, practice, and meaning" as lenses through which to read the world in fields outside the history of science and medicine (ix). Alchemy now seeps into discussions among scholars of theology, art history, cultural studies, literature, and gender studies.² Scholars have much to draw on, as alchemy was privileged and practiced widely in early modern Europe: in Italy Marsilio Ficino's Latin translation of the Greek *Corpus hermeticum*, published in 1471, spurred the hermetic revival that made alchemical knowledge valuable to educated men of the sixteenth century, including artists Leonardo da Vinci, Albrecht Durer, Lucas Cranach, Giorgione and Jan van Eyck (Ball 82); devotees of Swiss iatrochemist Paracelsus found patronage in the courts of Holy Roman Emperor Rudolf II in Prague and King Henry IV in France; Duke Friedrich of Wurttemberg in Germany was known for executing alchemists who defaulted on their contracts to produce the Stone "to show, in the most spectacular way, that alchemy was no idle pastime, but serious business in the Holy Roman Empire" (Nummedal 180); and Martin Luther clearly appreciated both the practical and eschatological implications of alchemy.³

England had its own rich alchemical culture: more than one hundred alchemical texts, including multiple editions of the same titles, were printed for public circulation between 1580 and 1680 (Kavey 125-26); a number of Shakespeare's contemporaries were serious practitioners (Nicholl 15-17); and Elizabeth I also patronized her own private alchemists, was thought to have

² These works contain comprehensive and cross cultural historical perspectives on the development of alchemy in the early modern world: *Transmutations: Alchemy in Art* by Lawrence M. Principe and Lloyd de Witt; *The Architecture of Science*, edited by Peter Galison and Emily Thompson; *Chymists and Chymistry: Studies in the History of Alchemy and Early Modern Chemistry*, edited by Lawrence M. Principe.

³ William Hazlit's translation of *The Table Talk of Martin Luther* quotes Luther: "The science of alchemy I like very well . . . I like it not only for the profits it brings in melting metals [but] also for the sake of the allegory and secret signification, which is exceedingly fine, touching the resurrection of the dead at the last day" (326).

practiced alchemy herself, and was the recipient of numerous alchemical gifts, including poetry (Nicholl 17-19). Sir John Davies for instance, in 1599, hails Elizabeth as an alchemist. He pays her tribute in one stanza of *Hymns of Astraea* I (cited in Ward 556):

R udeness itselfe she doth refine
 E ven like an Alchymist divine,
 G rosse times of iron turning
 I nto the purest form of gold
 N ot to corrupt till heaven waxe old,
 A nd be refin'd with burning.

Elizabeth would have read the stanza as a compliment that acknowledged her power to affect momentous change and to restore to England the peace and prosperity akin to the mythic Ovidian Golden Age during a time when her subjects doubted the efficacy of a virgin female monarch.

Alchemy nurtured the English literary imagination for two main reasons. First, alchemists wrote using the techniques of poets, writers, and playwrights; narrative and poetic qualities inherent in alchemical texts described scientific ideas in verse riddled with allusion and metaphor.⁴ Second, alchemy was essentially a philosophy of transformation with mutability at its core, a science and art in which the alchemist's hand guided base material to some semblance of

⁴ Philip Ball notes the peculiarity of one particular text, Elias Ashmole's *Theatrum Chymicum Britannicum* (1652), a collection of previously published alchemical texts. This book is noteworthy because in a post-classical world in which scientific texts are written in prose, the *Theatrum* is written in verse, demonstrating the "affinity between alchemy and poetry," showing that the most distinguished feature of alchemical discourse is anchored in the metaphorical language of poets (77-78).

perfection. The basic formula of the opus required the mixing of the philosophical opposites of sulphur (the hot, dry, male principle) and mercury (the cold, moist, female principle) in the alembic, the alchemist's glass vessel. Within the alembic these combinations of sulphur and mercury were subjected to cycles of *solve et coagula*, separation and union, to separate the pure *prima materia*, the original matter of creation, from the metals' base matter. The final cycle of *solve et coagula* yielded the philosopher's stone, a substance believed to be capable of healing all human imperfection and transmuting base metals into gold.

Literary writers clearly found in the opus apt descriptions of the transformative agents and events of human life. The chemical wedding, for instance, was a particularly common metaphor. It was exploited by poets who found in the mixing of sulphur and mercury's emblematical representations as marriage between man and woman, the conceit for personifying love as a transmuting agent, or a unifier of two disparate entities. Male and female personification of metals was popular because it "[encouraged] readers to think about the qualities generally associated with male and female human beings, and thus the labels served as cultural shorthand and means for familiarizing difficult and unfamiliar material" (Kavey 134). Alchemical texts reinforced the idea that mutability was as deeply engrained in the human experience as it was in the experimentation of the opus with the language of the microcosm in the alembic poetically rendering the effects of transformations in the microcosm of man. To ignore alchemy's influence on the literary world then is to foreclose important possibilities for interpretation of Renaissance literature, poetry, and drama.⁵

⁵ Other notable examples of alchemy in literature include the dramatic characters with alchemical names in plays such as Ben Jonson, John Marston, and George Chapman's *Eastward Hoe*; poetic speakers are alchemists engaged in dialogues with Nature or Sulphur and Mercury in *Alchemical Poetry, 1575-1700: From Previously Unpublished Manuscripts* edited by Robert M.

Shakespeare's Regenerative Alchemy and the Idea of Inversion

Shakespeare's alchemical allusions usually adhere to thematic patterns of elevation and regeneration. This language describes the physical, spiritual, or social transformation of some form of base material—a character that requires healing, or lacks ideal qualities or situation, or a site in the natural world in need of restoration. For example, Charles Nicholl finds alchemical motifs in *King Lear*, a play in which the king's trials and suffering reflect the journey toward perfection in the *magnum opus*. Likewise, Lyndy Abraham studies emblems such as the chemical wedding with its power to reconcile opposites, or enemies, the warring houses of Capulet and Montague, in *Romeo and Juliet*. Abraham also explicates in *Pericles, Prince of Tyre*, the *rex marinus* (drowning king), a symbol that instigates the *opus's* rhythm of *solve et coagula* (separation and union), the allegorical cycle of dissolution and unification experienced by King and child interwoven in Shakespeare's last four plays.⁶

Sometimes Shakespeare's allusions do not correspond to an overarching redemptive pattern, but still suggest a regenerative process, as in Sonnet 33, when the morning gilds “pale streams with heavenly alchumy,” and in *King John*, when Philip remarks of Blanche's upcoming wedding, “To solemnize this day the glorious sun / Stays in his course and plays the alchemist, /

Schuller; God is figured as alchemist who affects change in the base soul of man as discussed in Stanton J. Linden's "Mystical Alchemy, Eschatology, and Seventeenth-Century Religious Poetry"; the creation of the world is described as an alchemical process that yields a divinely reconstructed cosmos in *Paradise Lost*, according to Lyndy Abraham's "Milton's *Paradise Lost* and the 'Sounding Alchymie'"; and Roberta Albrecht's *The Virgin Mary as Alchemical and Lullian Reference in Donne* explores the poet's allusions to Mary as the female aspect of God in the esoteric opus.

⁶ See Charles Nicholl's *The Chemical Theatre*; Lyndy Abraham's "'The Lovers and the Tomb': Alchemical Emblems in Shakespeare, Donne, and Marvell," and "Weddings, Funerals, and Incest: Alchemical Emblems in Shakespeare's *Pericles, Prince of Tyre*."

Turning with splendor of his precious eye / The meager cloddy earth to glittering gold" (3.1.77-80).⁷ Given alchemy's concern with corrupted forms achieving heightened purity, these isolated instances, and the thematic redemptive patterns of *Lear*, *Romeo and Juliet*, and *Pericles* indicate a limited range of literary alchemical adaptations.

One alternative to the redemptive oeuvre is the alchemical reversal, or inversion.⁸ I believe inversions of alchemical principles are found in *Othello*. Alchemical inversions or reversals are moments when the goals or products of the allegorical opus are reversed, perverted, or depart from their redemptive conventions. Alchemical satires, namely Ben Jonson's *The Alchemist* (1610), present one kind of perverted alchemy in which two of its self-serving characters, Subtle and Face, are called "A Cheater, and his punk," and "Cozeners at large"; "Much company they draw, and much abuse, / In casting figures, telling fortunes, news, / Selling of flies, flat bawdry with the stone, / Till it, and they, and all in fume are gone" (lines 4, 6, 9-12). Subtle and Face, among others, seek by fraudulently alchemical means, the next get-rich-quick scam instead of seeking the stone for the good of mankind. Surly, ever skeptical of alchemy, also

⁷ Philip Ball also notes that Friar Laurence in *Romeo and Juliet* is the "archetypal Paracelsian herbalist, gathering "precious-juiced flowers" while contemplating nature's largess: "We sucking on her natural bosom find:/ Many for many virtues excellent" (2.3.8, 12-13). In "The Lovers and the Tomb," Lyndy Abraham further adds that Romeo's death is anticipated through "alchemical means" as he purchases poison from a beggarly apothecary "whose shop is adorned with alchemical insignia," an "alligator stuff'd" and "ill-shap'd fishes" (5.1.43-4) (307-08).

⁸ For a study of inversions in English Renaissance thought see William C. Carroll's *Fat King, Lean Beggar*. Carroll's introduction provides an overview of Renaissance thinkers' tendencies to perceive the meaning of things in relation to their opposites, or in relation to their inversions. Specifically, "symbolic inversion" is "any act of expressive behavior which inverts, contradicts, abrogates, or in some fashion presents an alternative to commonly held cultural codes, values, and norms be they linguistic, literary or artistic, religious, or social and political" (Babcock qtd. in Carroll 13).

calls the whole art "a pretty kind of game, / Somewhat like tricks o'the cards, to cheat a man, / With charming" (2.3.180-82). In *The Alchemist*, Jonson offers the kind of scathing commentary that arose in conjunction with rampant alchemical fraud that was a result of serious practitioners using cryptic language to prevent the haphazard dissemination of their secrets to unworthy charlatans.⁹

Of special interest for my purposes here are inversions of the variety found in John Donne's poetry. Selections from *Songs and Sonnets* also betray the poet's suspicion of alchemy; nevertheless, alchemical conceits are useful for Donne. His "Nocturnal upon St. Lucy's Day" is one poem in which such alchemical inversions are readily apparent. The "Nocturnal" is a somber reflection that occurs on the winter solstice, a day on which the sun, a dejected alchemist whose empty flasks "Send forth light squibs, no constant rays," promises no renewal (lines 3-4 qtd. in Care 116). The poem is a cautionary tale for prospective lovers. All are warned by a speaker in whom "love wrought new alchemy" and produced an empty being, a "quintessence even from nothingness" who is "every dead thing" transformed by "love's limbeck" into "the grave/ Of all that's nothing" (lines 12-13, 15, 21-22 qtd. in Care 116). Alchemical ideas are inverted because the alchemist's goal is to elicit *prima materia*, the purified substance required to achieve the stone in the subsequent stages of the opus. Thus, the alchemy is "new" in that it yields nothing of

⁹ See these authors' essays on the persistence of cryptic, metaphorical language in alchemy during the scientific revolution of the seventeenth century: Stephen Clucas, "Alchemy and Certainty in the Seventeenth Century," and "Alchemical Symbolism and Concealment" by William R. Newman. Both authors discuss beliefs of Andreas Libavius, an important chemist of the scientific revolution, whose designs for the alchemical laboratory incorporated alchemical symbols of John Dee's *Monas Hieroglyphica* (1564). See also Allen G. Debus's "Myth, Allegory, and Scientific Truth: An Alchemical Tradition in the Period of the Scientific Revolution," chapter three of *The Chemical Promise*.

its regenerative chemical promise. Instead of visions of healing and new life that love offers in other poems of the *Songs and Sonnets*, the lingering images in "The Nocturnal" are of a world drowning in chaos, darkness, absence, carcasses, and barren earth, all images of what Nicholl calls an "alchemical horror story" (134).

Critics have not shown Shakespeare to deviate from thematic redemptive patterns the way Donne does.¹⁰ What I suggest is that in *Othello*, subtly deployed alchemical allusions support a thematic pattern of destructive transformation more difficult to detect than the blatantly damning language of Jonson's obvious alchemical satire or Donne's "Nocturnal." The transformations I discuss in *Othello* are driven by the central idea of the principle of fluid mutability expressed in Thomas Tymme's *The Practice of Chymicall Physicke* (1605).

While written too late to influence *Othello*, Tymme's ideas about what constitutes transformation are inherent in alchemical books printed prior to the play. Tymme describes the evidence and process of transmutation as: "any thing [which] so forgoeth his outward forme, and

¹⁰ I've noticed in *Macbeth* that Shakespeare comes closer to an instance of something like Donne's "Nocturnal" when Lady Macbeth refers to the alchemical vessel as an unfruitful limbeck in their murder plot: "When Duncan is asleep . . . his two chamberlains/ Will I with wine and wassail so convince,/ That memory, the warder of the brain,/ Shall be a fume, and the receipt of reason / A limbeck only" (1.7.61-7), or rather, only an empty limbeck drained of its quintessence. Stanton J. Linden also observes other incidents of "alchemical bawdry" in Shakespeare's plays that resemble Jonson's comic inversions (*Darke Hieroglyphicks* 100): in *Timon of Athens*, Varro asks, "What is a whoremaster?" to which the Fool responds, "A fool in good clothes, and something like thee. 'Tis a spirit; sometime't appears like a lord, sometime like a lawyer, sometime like a philosopher, with two stones moe than's artificial one..." (2.2.108-14). In act five, Timon harps at the Poet, declaring, "You are an alcumist, make gold of that. Out, rascal dogs!" (5.1.114-15). And in *Henry IV, Part II*, Falstaff's threat to Justice Shallow makes an unflattering allusion to the art: "Well, I'll be acquainted with him if I return, and't shall go hard but I'll make him a philosopher's two stones to me. If the young dace be a bait for the old pike, I see no reason in the law of nature but I may snap at him: let time shape, and there an end" (3.2.328-32). But these are all individually isolated incidents of allusion in the whole of each play that don't necessarily correspond to overarching alchemical patterns like they do in Jonson's *The Alchemist*.

is so changed, that it is utterly unlike to his former substance and wonted forme, but hath put on another forme, and hath assumed another essence, another colour, another vertue, and another nature and property" (qtd. in Nicholl 154). This belief about transmutation stems from the Aristotelian four-element theory that posits all matter as composed of combinations of fire, water, earth, and air, and that proportions of these elements can be changed freely via transmutation. Much later, the same idea is fully evidenced in English scientific thought when Isaac Newton says, in *Principia* (1687), that, "Any body can be transformed into another, of whatever kind, all the intermediate degrees of qualities can be induced in it" (qtd. in Abraham, "Milton's *Paradise Lost*" 272). In short, this is the alchemical locus of *Othello*—it has nothing to do with making gold and everything to do with the sudden transformations of Othello and Desdemona as they each "assume another nature and property."

One more introductory point must be made. My alchemical reading of Othello's and Desdemona's transformation relies on a Greek term that arises in Plato's *Phaedrus*. In the dialogue between Socrates and Phaedrus, Socrates calls writing a "potion" that charms him into straying beyond the city walls of Athens for the first time. Socrates uses the word "potion" later to recount the myth of Theuth, the Egyptian god who presents many gifts to King Thamus of Egypt. Among his gifts to Thamus is the invention of writing, of which he claims, "O King, here is something that, once learned, will make the Egyptians wiser and will improve their memory; I have discovered a potion for memory and for wisdom" (79). Thamus counters this praise of writing as follows, "[Writing] will introduce forgetfulness into the soul of those who learn it . . . You have not discovered a potion for remembering, but for reminding" (79). Thamus objects to writing because he believes it will lead to dependence on another's language (external symbols) to make sense of the world, instead of the exercising of one's individual, internal memory. The

important point of this exchange between Theuth and Thamus is that they each use the word "potion" to make their argument. "Potion" is the English translation of *pharmakon*, a substance simultaneously curative and destructive, both remedy and poison.

The *pharmakon* registers some of Tymme's and Newton's alchemical notions of fluid mutability in which substances in the physical world assume diametrically opposed traits. Herein lies the idea that one substance, one body, contains coexisting and irreconcilable features. The paradoxical nature of writing, according to Plato, is such that its tangible material may be helpful in increasing knowledge, but it is seductive and dangerous in a way that lures Socrates outside of the city, the site of his "general, natural, habitual paths and laws," and takes him "out of his proper place and off his customary mark" (Derrida 76). Writing is both helpful and harmful, at once one thing, and its inverted opposite. In *Othello*, the goals of the alchemical opus are inverted to produce destruction instead of regeneration, and human beings personified as alchemical material, repeatedly assert their function as *pharmakon*: Othello both exudes virtue and succumbs to vice, Desdemona has potential to save her husband or to seal his ruin, and Iago exercises his capacity to both befriend and betray the couple.

In short, practical and literary alchemy flourished in England during the span of Shakespeare's creative period; alchemical allusions in the poetry and drama carried cultural meanings that complicated and enhanced literary themes; and alchemy is ultimately inverted in *Othello*. Alchemy has been overlooked in this play because it has no heavy-handed invocation of alchemical symbols or practice as in Jonson's *The Alchemist*. Instead, a "buried narrative" may be decoded, in the manner that Karen Pinkus describes in "Hermaphrodite Poetics," in which the presence of an emblem or the insertion of a deceptively insignificant trope becomes key to reading a "streaming subtext" that otherwise remains veiled (109). There are several signposts

that point to the "streaming subtext" of alchemical reversal in *Othello*. Specifically, as the following discussion argues, the marriage, the references to the torturous *nigredo* stage, the dual nature of mercury, and the corrupt alchemist figure are all part of this streaming subtext.

Desdemona, Othello, and the *unio mentalis*

To set the stage for further discussion of inverted alchemy, let us begin with the couple. In the beginning of the play Othello and Desdemona share a *unio mentalis*, or a higher spiritual union free of bodily lusts. The couple demonstrates characteristics of this union when Desdemona is called to court to present her testimony and Othello explains why he wishes for her company in Cyprus. Before Desdemona arrives and after Othello relates the instances of his past that both father and daughter longed to hear, Othello says Desdemona "lov'd me for the dangers I had pass'd. / And I lov'd her that she did pity them" (1.3.167-68). Later, Desdemona expresses her love for Othello as follows: "I saw Othello's visage in my mind, / And to his honors and his valiant parts / Did I my soul and fortunes consecrate" (1.3.252-54). Shortly afterward, Othello justifies his need for Desdemona's company; like Desdemona's expression of love for him, neither does his love for her indicate physical desire. He explains his reasoning to the senate: "Let her have your voice. / Vouch with me heaven, I therefore beg it not / To please the palate of my appetite, / Nor to comply with heat (the young affects / In me defunct) and proper satisfaction. / But to be free and bounteous to her mind" (1.3.260-65).

The couple's love is admirable precisely because it is founded upon concerns beyond the body before the marriage is consummated. These lines hint at the highest kind of Platonic love described in book four of Castiglione's *The Courtier* (1528), in which lovers understand each other because each has "come into his witt, to behoulde the beauty that is seene with the eyes of the minde, which then begin to be sharpe and thorough seeinge, when the eyes of the body lose

the floure of sightlynesse (186). Both husband and wife see with the "eyes of the mind" which look beyond sensual pleasure. Desdemona confesses love based not on physical desire but what she knows of both his past, the "story of [his life]" in his "[battles], sieges, [fortunes]" and his present military status: should he leave for Cyprus without her, "The rites for why I love him are bereft me" (1.3. 129-30, 257). And Othello elides the possibility of Desdemona's physical attraction, openly doubting the efficacy of his own "speculative and offic'd [instruments]" and instead emphasizing her appreciation of his "hair-breadth scapes i' th' imminent deadly breach," his "being taken by the insolent foe / And sold to slavery," and all the "distressful [strokes] / That [his] youth suffer'd" (1.3.136-37, 157-58). He loves her not only for her compassion toward him, but also presumably because she is extolled as a paragon of virtue by her father (he calls her "perfection" itself, 1.3.100) and Cassio (who also says "She is indeed perfection" and calls her "divine Desdemona" in whose presence the elements themselves seem to forego "Their mortal natures," 2.3.28, 2.1.67-73).

Another indication of the higher love of the *unio mentalis* is found in Othello's greeting of Desdemona at Cyprus. Upon meeting, their marriage is still not consummated, yet her presence alone satisfies him: "It gives me wonder great as my content / To see you here before me. O my soul's joy! . . . If it were now to die, / 'Twere now to be most happy; for I fear / My soul hath her content so absolute / That not another comfort like to this / Succeeds in unknown fate" (2.1.183-93). This depiction of the couple can be read as a literary adaptation of the *unio mentalis*, a feature of the *coniunctio* (conjunction) in the first stages of the opus; it was often coded as the chemical wedding, or "marriage" between sulphur and mercury, or man and woman. This union was achieved by dissolving over heat the base metals sulphur and mercury into *prima materia*, or first matter, the pure, original material of creation thought to exist in all matter. Once

the *prima materia* was isolated, it was subjected to repeated cycles of *solve et coagula*, or *separatio* and *coniunctio* (separation and union), liquefying and hardening, encouraging reconciliations of opposites in the alembic. The product of the final *coniunctio* resulted in the most pure, most refined combinations of sulphur and mercury: the philosopher's stone, elixir, or quintessence (fifth element), all terms for the substance alchemists believed would transmute base metals into gold and perfect all human imperfection. *Prima materia* was the equivalent of the metal's "soul" and when separated from its base "body," it could then be reunited, or newly combined into more purified substance. In "The Lovers and the Tomb," Lyndy Abraham notes that this operation took place on two levels, the physical and the metaphysical, and summarizes sixteenth century alchemist Gerard Dorn's commentary on this operation as follows: "[this] alchemical union [was] the overcoming of the body by a union at the mental level, a *unio mentalis*. The separation of soul from body was considered necessary for growth and discrimination and self-knowledge—a growth not possible while the soul was still under the dominion of bodily desires and conditions" (313-14).

The physical aspect of this separation task is emblematically represented by the sexual coupling of man and woman. Emblem five of the *Rosarium Philosophorum* (1550) is the most iconic image of this coupling, featuring a naked king and queen embracing in the sea of the alembic (figure 1). Emblems eight and nine in the *Rosarium* show the metaphysical: the bodies of the king and queen "die," that is, they lie upon sepulchers and their baseness disappears while their souls, the *prima materia*, rise in vaporous clouds above them (figures 2 and 3). The metaphysical union features no separation of male and female bodies, but one unified body with equally proportioned male and female anatomy, a figure anticipating the image of the royal hermaphrodite at the end of the opus. Alchemical texts printed before *Othello* also describe the

mixing of sulphur and mercury as a marriage. Verses from the Ripley Scroll, attributed to Richard Carpenter and reprinted in Elias Ashmole's *Theatrum Chemicum Britannicum* (1652), cast the union as a marriage between Sol and Luna: "Of hem drawe owte a Tincture, / And make a matrymony pure: / Betweene the husband and the wyfe . . . And so that none dyvysion / Be there, in the conjunction / Of the Moone and of the Sonne, / After the marriage ys begonne" (275 lines 5-12). And in the *Rosarium* the *coniunctio* is described as a wedding: "The white woman, if she be married to the red man, presently they embrace, and embracing are coupled. By themselves they are dissolved and by themselves they are brought together, that they which are two, may be made as it were one body" (Maclean 35). The two individuals melting into one body are unified in equity of state with hierarchies dissolved.

More significantly, the *unio mentalis* and *coniunctio* in emblem books were often signaled by the royal hermaphrodite, which presented a picture of the purest reconciliation of opposites, a union with harmoniously coexisting male and female features in one body (figure 4). This image is particularly salient for Othello and Desdemona because, while literally remaining distinct individuals, their marriage is reminiscent of the figurative hermaphroditic union of the metaphysical couple in the emblems of the *Rosarium*. The key point to remember is that through an alchemical lens, Othello and Desdemona enjoy something beyond companionate love, the long established and by the end of the sixteenth century, dominant, but controversial "ideal" marriage relationship—controversial because not consistently practiced and because of the overwhelming evidence of the persistence of the doctrine of female submission in the language of cultural documents on marriage (Deets 234; Young 44, 64; Davies 566).¹¹ This is alchemy's

¹¹ Early modern writers describe the dominant model of marriage in various ways: while acknowledging the husband as "chief head of the family," William Perkins in *Christian*

contribution to the discussion of conjugal love: alchemy creates perhaps the only context in which man and woman consistently appear as equals. As such, the metaphorical marriage in alchemy is quite subversive. Images of coexisting male and female entities in one ruling body naturally challenged early modern social hierarchies. Kathleen P. Long notes:

alchemy can be seen as a subversive, almost parodic, cultural form, enacting monarchy, marriage, and other institutions in a way that puts the institutions themselves into question. Instead of ruling over his wife, the husband loses himself in her, and she in him, thus effacing the hierarchy within which the stage of conjunction, often represented as a marriage, is enacted. (147)

The simple explanation for alchemy's subversive tendencies recalls the idea of fluid mutability—all matter is composed of elements whose proportions can be freely changed to create new substances. Or, as Long puts it, "Alchemy is based on the presumption that everything can be

Oeconomy calls the wife her husband's "associate . . . not only in office and authority, but also in advice and counsel unto him"; Henry Smith's *A Preparative to Marriage* says "the man and wife are . . . like two oares in a boat, therefore he must divide offices and affaires . . . with her" since she is "an under-officer in his Commonweale" and as such is to be "feared and revered, and obeyed of her children and servants like himself"; and William Gouge's *Of Domesticall Duties* calls the wife "joynt governour with the husband of the Family" (all qtd. in Young 55). Sara Munson Deets observes, however, the lingering traces of patriarchal dominance and "asymmetry" in the language of pamphlets, hortatory treatises, and conduct books, despite their advocacy of conjugal mutuality. She notes, for example, the persistence of St. Paul's "dictum" of female submission in the Elizabethan "An Homily on the State of Matrimony"—"You wives, be you in subjection to obey your own husbands"—and William Whately's *A Bride-Bush*, which states that a wife's happiness depends in part on the understanding that "Mine husband is my superior, my better; he hath authority and rule over me" (qtd. in Deats 234-35). Kathleen M. Davies's earlier piece, "The Sacred Condition of Equality: How Original Were Puritan Doctrines of Marriage?" surveys an even broader range of primary sources, concluding that, "The overwhelming preoccupation of the seventeenth-century writers was with the relationship between husbands and wives, a relationship which subordinated the wife to the husband" and that Puritanism was a source of "revolutionary ideas about marriage and family life" only for "far-left" "radical groups in both England and America" (566, 578). In other words, Davies points out that the supposed *new* ideas about family life ascribed to Puritans were not original.

dissolved, and that boundaries between different elements and masses can be erased and rewritten" (113). The purest *coniunctio* is the ultimate crossing of boundaries that results in equality between opposites. This idea of boundary crossing is manifested in Othello and Desdemona's marriage at the beginning of the play, as evidenced by their *unio mentalis*, and by the couple's dissolution of other social boundaries: their marriage is interracial, clandestine, occurs without Brabantio's permission, and violates other "taboos" of Renaissance marriage ideology observed by Virginia Mason Vaughan, such as differences in social rank and age between husband and wife. Their equity of state and figurative lack of division between them are further indicated by Othello's trust in Desdemona to speak freely and govern herself as reasonably as he does, which Vaughan claims would have been unconventional considering Renaissance beliefs about marriage.¹² Alchemy suggests that more is at stake when Othello

¹² Vaughan cites Margaret Loftus Ranald's "The Indiscretions of Desdemona," which reevaluates Desdemona's behavior against Renaissance homilies, ballads, canon laws, and marriage treatises, all of which "unfailingly preach the importance of wifely submission, emphasize female chastity, parental permission before marriage, importance of tact, discretion, and circumspection in any wife" (qtd. in Vaughan 74). Vaughan concludes that Desdemona violates the social codes established by the Renaissance marriage texts when she marries in the middle of the night without parental consent, visits privately with Cassio, pleads with Othello to reconsider Cassio's situation, and takes interest in public affairs outside the home (74-75). I agree that these behaviors are unconventional, but read them as manifestations of the equity of state between husband and wife, signs that Othello trusts Desdemona to be just as "free and bounteous to her mind" (1.3.64) as he is with his own. Vaughan further explains that Othello's crossing of boundaries is even more apparent than Desdemona's. Othello is considerably older and is perceived by others to hold a much different social rank. These conditions disregard Robert Cleaver's opinion in *A Godly Forme of Household Government* (1603) that there should be "a wise and holy regard had of equalitie in yeeres, of an agreement in religion, of similitude in nature, in manners, in outward estate, condition and qualitie of person, and such like necessarie circumstances. For what is more unmeet, thenfor an old person to promise to bee contracted to a young one?" (qtd. in Vaughan 75). Also, Master Pedro in Edward Tilney's *The Flower of Friendship* says husbands should ideally be no more than four or five years older than their wives (Vaughan 75). Seemingly contradictory differences between Othello and Desdemona make their companionship even more remarkable as they overcome these odds to achieve "equity of state" in an alchemical paradigm.

requests her testimony in court, taking her defense as an extension of his own so that his life depends on it (he might have called on Cassio, Iago, or any other witness of the marriage). Also, when he trusts her to be "free and bounteous to her mind" (1.3.64), and when he later says to her, "I will deny thee nothing" (3.3.81). These early glimpses of the couple are the beginning of what might have been a true expression of companionate love had *Othello* been other than a tragedy.

Iago and the Figure of the Alchemist

Why does Iago refer to his designs to ruin Othello as "medicine"? When Othello "Falls in a trance" after spying Cassio and Bianca toying with his handkerchief, Iago claims, "Work on/ My medicine, work! Thus credulous fools are caught,/ And many worthy and chaste dames even thus/ (All guiltless) meet reproach" (4.1.42-47). These lines, and others, allude to an alchemical context that Shakespeare possibly had in mind while composing *Othello*, a context more subtly suggestive than the obvious alchemical inversions in Donne's "Nocturnal."

Discussions of the alchemist's virtue (as well as medicinal alchemy) were frequent enough in the sixteenth and seventeenth centuries that Iago's reference to his work as "medicine" invites decoding of alchemical hints. The ideal byproduct of the opus was called medicine, tincture, or Elixir. It was also often called *aurum potable*, drinkable gold, a concoction thought to be especially therapeutic for being derived from the most perfect element in nature. Sir George Ripley's *Compound of Alchymy*, in which the word "medicine" appears 27 times, says of the Elixir, "Then will that medicine heale all infirmitie . . . Thus you shall make the great Elixer, and Aurum potable" (*Compound of Alchymy*, reprinted 1591). These medicinal aspects of alchemy are further developed in Paracelsus's contributions to the field. In *Of the Nature of Things* (c. 1570), Book 7, "Of the Transmutation of Natural things," Paracelsus describes medicine as transformative tincture: "Tincture therefore is a most excellent matter, wherewith all Minerall

and Humane bodes are tinged and are changed into a better and more noble essence and into the highest perfection and purity . . . all Diseases bee expelled from them, that their lost strength and colour bee restored and renewed" (qtd. in Linden, *Alchemy Reader* 159-60). Instead of focusing on transformations that lead to gold or the philosopher's stone, Paracelsian alchemy sought medicinal combinations of minerals and chemicals for healing.¹³ While Paracelsus's works were largely published after his death in 1541 his writings continued to fuel debates over his open rejection and reform of preeminent Galenic medical institutions well into the late seventeenth century.

Shakespeare's *All's Well that Ends Well* provides a contrast to perverted medicinal references in *Othello*, and shows the playwright's awareness of the Paracelsian controversy. He frames *All's Well* with an ailing king who requires a remedy that only the orphaned physician's daughter, Helena, can provide with gifts inherited from her father: "There is a remedy, approv'd, set down, / To cure the desperate languishings whereof / The King is rendered lost" (1.3. 228-30). Helena takes this cure, one of "Many receipts he gave me," the "dearest issue of his practice, / And of his old experience th' only darling, / He bade me store up" (2.1.105-08). The Paracelsian and alchemical flavors of the play are evident in what Helena's father leaves behind—medicines of his own making from recipes of his own design, the greatest of which is "dearest issue," a pun on the alchemist's issue, or the philosopher's stone depicted by images of a child in alchemical emblem books. The king's unprecedented recovery prompts a discussion between Lafew, Bertram, and Parolles, who talk of living in an age consumed by "the rarest argument of wonder that hath shot out in our latter times" (2.3.1-3, 7-8). The "argument of wonder" refers to the

¹³ For a more comprehensive discussion of Paracelsus's contributions to alchemy see Allen G. Debus's "Iatrochemistry and the Chemical Revolution," chapter twenty-five in *The Chemical Promise* or *The English Paracelsians* by the same author.

Galen-Paracelsus debates, since Parolles mentions both physicians' names in the same conversation (2.3.10-11). Shakespeare allows remedies to do their work of healing in *All's Well*, but in *Othello*, perverse Paracelsian leanings underlie Iago's observation that "The Moor already changes with my poison" (3.3.329). Othello's lines in this instance point to the alchemist's, Iago's, recognition of language's *pharmakon* avatar.

Shakespeare's alchemy in *Othello* is appealing because it functions in a manner similar to the alchemy Lyndy Abraham observes in *Pericles*. Abraham argues that alchemical emblems are subtly "interwoven into the fabric of *Pericles*" and "are there for the audience to experience, or even, for the well-read, to consciously decode" ("Weddings" 523). A knowledgeable audience of *Othello* in the seventeenth century might have heard Iago's references to the alembic in the foreshadowing of the "many events in the womb of time which will be delivered" (1.3.370), knowing that the "womb" was a term for the alembic, and used in Donne's "Love's Alchemy" as the "pregnant pot" (line 8) and in "The Comparison" as "the limbeck's warm womb" (line 36).¹⁴ A well-read audience of the first productions of *Othello* might have also linked Iago's garden speech with the alchemical garden. In counseling Roderigo and stressing the importance of patience, he uses a garden analogy:

Our bodies are our gardens, to the which our wills are gardeners; so that if we will
plant nettles or sow lettuce, set hyssop and weed up thyme, supply it with one
gender of herbs or distract it with many, either to have it sterile with idleness or

¹⁴ In Ben Jonson's *The Alchemist*, Face jests that the *opus* is like "a wench with child" (2.2.8-9), and poet Jean de Meun notes that the alembic requires steady, low heat, "just as an infant in the womb is cherished by natural heat" (qtd. in Abraham, *Dictionary* 112). Whether the alchemical associations are intentional or not, their presence projects Iago as one who controls a set of defined parameters.

manured with industry, why, the power and corrigible authority of this lies in our wills. (1.3.317-22)

This depiction of individual will as the gardener of the body, or garden, and Iago's suggestion of his intent to "distract" Othello's mind and body with "nettles" (falsehoods) in a place where the Moor is idle after the loss of the Turkish fleet, inverts the alchemist's virtuous cultivation of operations in the alchemical "garden," another term for the alembic, of regenerative alchemy. In regenerative alchemy, attaining the stone was equated not only with virtuous wisdom but also with the key to curing all human illness. The alchemist, for example, in the *Rosarium Philosophorum* is only rewarded with an encounter of these gifts in a garden of white and red blossoms that symbolize the stone, as well as wisdom, if he carefully performs all steps of the opus, and if he possesses the requisite virtue (cited in Abraham, *Dictionary* 84). The garden also appears as the place in which the philosophical tree grows as a symbol of the entire redemptive opus: Nicholas Flamel's *Philosophical Summary* notes that "the garden of the Sages" is where "our tree is watered with the rarest dew" (qtd. in Abraham, *Dictionary* 83-84). Further, the garden speech is significant in a thematic adaptation of alchemy because it posits Iago as a manipulator of material, an active responder to the natural world around him. Iago clearly sees himself as a manipulator in these lines: "The Moor is of a free and open nature, / That thinks men honest but that seem to be so, / And will as tenderly be led by the'nose / As asses are" (1.3.381-84). These lines convey an assertion of Othello's naive trust as a kind of *prima materia* to be easily and freely manipulated. Despite the lack of overtly familiar markers of alchemy in Iago's language, his words imply basic tenets of alchemical philosophy: that under the right circumstances and control, matter conforms to the will of another.

Iago's language activates latent alchemical contexts that would have appealed to seventeenth century spectators well versed in the alchemical arts. While watching, audience members with alchemical sensibilities may have perceived Iago's alchemical references to be part of an overall pattern of inverted alchemy unfolding before them. In Iago's line that declares that "many events in the womb of time . . . will be delivered," an audience with knowledge of alchemy would have been prepared to anticipate a reversal of the alchemical paradigm in which Othello and Desdemona first experience the end results of the opus, the perfect reconciliation of opposites in marriage, which Iago, a corrupt Paracelsian adept, labors to transform into a *pharmakon* that results in stability's deterioration into chaos by the end of the play.

Perverse Transmutations

As we imagine Iago in the role of perverse alchemist, we can identify the moment in which he begins to affect transformation upon his *prima materia*. The progress of his "medicine" depends in part on another inversion, that of the classically sanctioned art of rhetoric. Iago takes stock of his rhetorical situation even before Othello enters the stage. Remember that Othello and Desdemona's marriage is a literary adaptation of the alchemical *unio mentalis* of sulphur and mercury in the *coniunctio* stage, and that their union is reminiscent of the desirable end product, the royal hermaphrodite of the redemptive opus. This triumphant figure's counterpart is the monstrous hermaphrodite, the lewd and sinful "beast with two backs" (Rackin 75). Iago's first move to destroy the couple is to portray their higher-level spiritual union in terms so vile that they evoke disgust. He plants the image of the monstrous hermaphrodite firmly in Brabantio's imagination, putting his audience in the right frame of mind in the Aristotelian sense, with one well calculated line: "I am one, sir, that comes to tell you your daughter and the Moor are now making the beast with two backs" (1.1.17-18). However, Iago more carefully prepares Brabantio

to receive this line. The beast with two backs is the culminating image in a sequence of progressively more degrading imagery. He begins with "Awake! what ho, Brabantio! thieves, thieves! / Look to your house, your daughter, and your bags! (1.1.79-81). Then he follows with "Your heart is burst, you have lost half your soul / . . . an old black ram / Is tugging your white ewe" (1.1. 87-9) and "you'll have your daughter cover'd with a Barbary / horse, you'll have your nephews neigh to you, you'll / have coursers for cousins, and gennets for germans" (1.1.111-13). Finally, he ends with "I am one, sir, that comes to tell you your / daughter and the Moor are [now] making the beast / with two backs" (1.1.115-17).

Iago's imagery at first is mild, planting the seeds for associations between vague words such as "thieves" with "daughter," "house," and "bags." More specific nouns and adjectives mount to connections that link Brabantio directly to ram, ewe, Barbary horse, and coursers and gennets. The most hideous image is the "beast with two backs" directly incorporating Brabantio's "daughter" and "the Moor." This image sequence is an inversion of alchemical treatises in which progressively more purified images of coupling are symbolized by animals. That is, the *prima materia* resulted in more refined combinations of opposites during its cycles of *separatio* and *coniunctio*, symbolized in the early stages of separation and union by the hen and cock, dog and bitch, amative birds, and winged or wingless dragons and serpents (Abraham *Dictionary* 36). These bestial images were succeeded by male and female human lovers or the red king and white queen, and then by Sol and Luna or the royal hermaphrodite—the culminating image signaling the ideal reconciliations of sulphur and mercury. As always, the goal of redemptive alchemy was to move toward perfection with every step of the opus, hence the move toward more refined imagery at the close of the operation.

Not so in *Othello*. When Iago informs Brabantio of his daughter's union, Iago does not call it a marriage, but an expression of the unnatural, defiled hermaphrodite that spurs Brabantio's enduring, hateful suspicion. In its opposite extreme, the hermaphrodite functions in this scene as a *pharmakon*, a figure diametrically opposed to Othello and Desdemona's spiritually exultant union. Incidentally, it is only after the hermaphrodite is mentioned that Brabantio immediately responds with a pointed accusation, instead of empty warnings and threats: "Thou art a villain" (1.1.118).

As disturbing as it might be for an upper-class Venetian senator to visualize his daughter in this way, Iago reserves the most disturbing images to be planted in Othello's mind. For Othello, the inverted imagery is so vivid and such a distortion of the ideal that it seems to seal Desdemona's fate. Iago says, "Is it possible you should see this, / Were they prime as goats, as hot as monkeys, / As salt as wolves in pride, and fools as gross / As ignorance made drunk" (3.3.402-05).

I will say more about the choice of pairing of Desdemona with the image of the wolf momentarily. It is enough to note for now that the images recast the "divine Desdemona" in light of the *pharmakon*, a perverse reconfiguration of a virtuous wife into a degraded whore. The result of Iago's private conversation with Othello in this scene, which here has the transformative properties of an alchemical process, is that Iago elicits the Moor's bestiality. Othello finally says, "I will tear her all to pieces" (3.3.432). By the end of the scene, despite Iago's counsel to avoid hasty decisions and to wait to see if he changes his mind, Othello is convinced of Desdemona's lechery and has made up his mind: "Never, Iago. Like to the Pontiac Sea, / Whose icy current and compulsive course / Ne'er knows retiring ebb . . . so my bloody thoughts with violent peace / Shall ne'er look back, ne'er ebb to humble love" (3.3.453-58).

At this point in the play, most of Iago's perverse transmutation is done. All that remains is for Othello to see the "ocular proof" of the handkerchief. In act three, scene three we see what might be called the *nigredo* stage of the alchemical opus. *Nigredo*, in which the impure, base metals of the alembic were "killed" or "tortured," blackened and dissolved so that they could be recombined into more pure forms, preceded *coniunctio*. Without first "suffering" and turning black, the first color transformation, the base material could not move toward *coniunctio*'s perfection, turning white, then the final red. After Iago suggests the possibility of Desdemona's infidelity, Othello breaks down in a state of incurable misery, his character masterfully overshadowed by imagery of the *nigredo*. In the play, Shakespeare's images of *nigredo* coincide with the decomposition of Othello's identity as a confident rhetor and warrior.

In act three, scene three, Othello laments to himself: "I had rather be a toad / And live upon the vapor of a dungeon / Than keep a corner in the thing I love / For others' uses" (3.3.270-72). Later he bemoans Desdemona's "loss of purity." She was once the pristine fountain from which his "current" flows but which is now polluted as a "cistern for foul toads / To knot and gender in" (4.2.61-64). Why does Othello speak of toads? Clearly, they evoke both the biblical plague of frogs in Egypt. Additionally, in alchemy, toads symbolize the rotting, dying bodies of base substances. The alchemical poem titled "The Vision of Sir George Ripley, Chanon of Bridlington," relates a vision of the death of the toad, a harbinger of *nigredo*. There is a connection between decomposition of Othello's own identity and the toad swelling with his own venom in this excerpt of the poem (lines 5-14):

And after that from poysoned bulke, he cast his venome fell,
For grieffe and paine whereof his members all began to swell;
With drops of poysoned sweate approaching thus his secret den,

.....
 And when his corps, the force of vitall breath began to lacke,
 This dying toade became forthwith like coale for colour black:
 Thus drowned in his proper Veynes of poysoned flood,
 For tear me of eightie dayes and foure he rotting stood . . .

The decay of the self-knowledge and confidence Othello possesses in his *unio mentalis* accompanies his references to toads. Like the toad assuming another nature, Othello's transformation involves assuming a different identity. Only moments before the first mention of toads, he acknowledges his own inadequacy as a speaker and his black skin: "Haply, for I am black, / And have not those soft parts of conversation / That chamberers have" (3.3.263-65). Only in the temptation scene does Othello consider these aspects as defective marks of his identity. Previously, when Iago suggests the Duke's power to force a divorce, Othello is self-assured in his response: "Let him do his spite; / My services which I have done the signiory / Shall out-tongue his complaints" and "I fetch my life and being/ From men of royal siege, and my demerits / May speak, unbonneted, to as proud a fortune / As this that I have reach'd" (1.2.18-25). Shortly afterward he delivers a stunning rhetorical performance in court while relating his life history without any indication of blackness as a sign of inferiority. Othello's confidence in his rhetorical ability and military status in the beginning offers a striking contrast to the insecurity he displays after the temptation scene in which he acquires the shame of a victim of cuckoldry. The impurities he perceives in Desdemona, with whom he associates the corrupt baseness of the toad in the second reference, he sees in himself. Desdemona's impurity leaves Othello divested of the status he was once proud of. As a cuckold, Othello can only say "Farewell! Othello's occupation's gone!" (3.3.357). He admits defeat and submits to being

conquered. His *unio mentalis* is destroyed by a new sense of inequality as a husband deceived by his wife.

It is fitting then, that Othello prefers to be a toad living "upon the vapor of a dungeon." Coincidentally, the transmutation of the toad in Ripley's vision occurred in the alembic, often described in alchemical texts as a prison or dungeon, in which a cloud, or vapor floated at the top and held the purified spirit of the metals. The release of vapor signaled early regeneration before the white and red color transformations (figure 5). In Ripley's "Vision," the toad's venom eventually becomes the medicinal Elixir. However, there is no healing anticipated in *Othello*. The Moor refers to "toads" and "vapor" to describe a psychologically severed union without the hope of restoring the poisoned flood the husband finds in his wife. Now, all is irrevocably corrupt, base as the alchemical toad, and he is trapped in his own "dungeon" of inferiority as a cuckold; for Othello, the only way out of this trap is to break the "curse of marriage": "I am abus'd, and my relief / Must be to loathe her" (3.3.267-68).

Bruce Moran's "The Less Well-known Libavius: Spirits, Powers, and Metaphors in the Practice of Knowing Nature" explains why alchemists relied on metaphors, such as the toad, and helps interpret Othello's complicated situation. Moran says readers of alchemical texts "regularly depended upon metaphors as a way to place the province of experience upon the map of cognition," and that through metaphors, the alchemists' "silent experience gained a voice" because "Imaginative metaphors help link the experience of the body with the process of thinking, and can be viewed as helping to draw closer together what has been called an 'artisanal epistemology' on the one hand and conjectures about the operations of nature on the other" (15, 23-24). For alchemists then, the work they experienced in the isolation of their laboratories was translatable via metaphorical thinking—metaphors of man and woman for sulphur and mercury

for example, and their mixing as marriage provided practitioners with comprehensible vocabulary to convey the meaning of their work. Othello too cannot convey his suffering in any other way. His own internal, private experience speaks through a string of alchemical metaphors that publicizes the dissolution of all that he once knew.

Desdemona's transformation also has alchemical bearing. Numerous scholars have already noted the discrepancies in Desdemona's behavior between the beginning and the end, usually agreeing that the play "constructs two Desdemonas: the first, a woman capable of 'downright violence' (1.3.249): the second, 'a maiden never bold'" (1.3.94) (Stallybrass qtd. in Vaughan 73).¹⁵ Yet none of their studies explains *why* she changes, and instead remain inseparable from discussions of her marginalized social status in a patriarchal society (Vaughan 73). As demonstrated earlier, Desdemona's companionship with Othello transcends limitations evident in the language of sixteenth century marriage documents so that she is not merely a passive, withdrawn victim of patriarchal institution. She actively responds to Othello throughout the play by choosing to conduct herself according to her own will. It is only when she chooses to respond to Othello's transformation with silence that their *unio mentalis* shows signs of disintegration.

Desdemona's equity of state with her husband is most apparent in her capacity to save him by speaking the right words at the right time, as in the court scene. She saves her husband in the beginning with her ability to speak, because not only do her presence and words appease Brabantio enough for him to acknowledge the marriage—"I here do give [Othello] that with all

¹⁵ See Vaughan's chapter "Husbands and Wives" in *Othello: A Contextual History* for a summary of interpretations of Desdemona, including those by Carol Thomas Neely, Margaret Loftus Ranald, Mary Beth Rose, and Irene Dash.

my heart/ Which but [he] hast already" (1.3.194-95)—but she is called specifically to speak: "Send for the lady to the Sagittary,/ And let her speak" (1.3.115-16). She provides the testimony without which Othello's life and reputation remain at stake. Indeed, what she says in court saves the matrimonial bond threatened by Brabantio's and Iago's malignity. In speaking publicly, Desdemona restores Othello's "good name," the equivalent of his life and occupation, since, "Good name in man and woman . . . Is the immediate jewel of their souls" (3.3.155-56).

The moment in which Desdemona most needs to speak publicly is when she notices Othello's transformation: "My Lord is not my Lord, nor should I know him" (3.4.120). She fails to rely on her rhetorical prowess and confidence to speak publicly and save him. Instead she chooses silence. Sensing a dark influence on her husband, she chooses to follow Iago's advice to "act normally in the hope that Othello will reform as inexplicably as he has degenerated" (Vanita 345).

The problem with Iago's advice is that "normal" female behavior means something quite different for him than for Desdemona. Iago's behavior and speech imply that he takes marriage counsel like that in "A Homily of the State of Matrimony" (1547-71) or William Whately's conduct book, *A Bride-Bush* (1616) literally. "A Homily" says to wives: "You wives, be you in subjection to obey your own husbands" (qtd. in Deets 234). Whately argues that women will be happy marriage partners if they acknowledge that "My husband is my superior, my better; he hath authority and rule over me" (qtd. in Deets 235). Iago's conversation with Emilia and Desdemona in Cyprus illustrates his advocacy of this doctrine of obedience issued from the pulpit and the printing press, especially in regard to a wife's duty to be submissive through her silence. When Emilia is greeted in Cyprus with a polite kiss from Cassio, Desdemona remarks that Emilia is speechless, "Alas! she has no speech" (2.1.104). Iago assumes the prerogative to

respond, as a superior husband, with this insult: "In faith, too much; / I find it still, when I have [list] to sleep. / . . . She puts her tongue a little in her heart, / And chides with thinking" (2.1.105-09). He continues to belittle the most virtuous of women, declaring that they are good only for managing menial household duties and childrearing. Desdemona's reaction to his view of "normal" behavior for women is bold. She tells Emilia, "O most lame and impotent conclusion! Do not learn of him, Emilia, though he be thy husband" (2.1.161-62). Here Desdemona exhibits what, for her, is normal female behavior, following a similarly outspoken performance in the court scene.

Later, after asking Iago to act as mediator between her and Othello, Desdemona retains her agency and chooses to follow Iago's advice to "act normally." However, she adopts Iago's method instead of her own. Desdemona attempts to counter her husband's transformation by doubting her own assertive will and attempting to embody the form of female virtue socially acceptable to Iago. She reverts to her "rightful" place in society that Iago, and contemporaneous conduct manuals would have her occupy. Desdemona does not capitalize on the opportunity to speak publicly in her husband's or her own defense, as for example when Othello symbolically severs the couple's *unio mentalis* by striking her and repeatedly calling her the devil in public. Her pitiful, but "normal" (by Iago's standards) response to his shocking violence is, "I have not deserved this . . . I will not stay to offend you," followed by her hasty exit (4.1.236, 242). Lodovico's response in conversation with Iago, paired with Desdemona's choice to leave, indicate that Othello's reputation is threatened: "Is this the noble Moor whom our full Senate / Call all in all sufficient? Is this the nature / Whom passion could not shake? whose solid virtue / The shot of accident nor dart of chance / Could neither graze nor pierce? . . . / Are his wits safe? Is he not light of brain? . . . / What? strike his wife?" (4.1.264-273).

When Desdemona chooses to be silent, Othello's reputation and honor are precarious. Had Desdemona spoken with the confidence of the court scene, or questioned her spectators freely, as she did earlier when openly challenging Iago's views on women in Cyprus, she might have taken the first steps toward saving herself and Othello.

There is an allegorical alchemical figure that simultaneously exhibits both restorative and detrimental qualities in one body, as Desdemona does: dual mercury. Alchemical mercury can both heal and destroy, and therefore constitutes a mercurial *pharmakon*. Charles Nicholl's discussion of dual mercury personified in King Lear's daughters relates to Desdemona. Regan, Goneril, and Cordelia are "caustic and balm, torment and nurse, disease and physician" (168). In *Lear*, Goneril and Regan, made of the "self-same metall," assume the vitriolic Mercurial identity that Cordelia counters as the healer who returns to her father and says, "O my dear father, restoration hang/ Thy medicine on my lips, and let this kiss/ Repair those violent harmes that my two sisters/ Have in thy reverence made" (4.7.25-28). Desdemona, like Lear's daughters, is characterized in terms strongly reminiscent of dual Mercury and exhibits healing and destroying capacities in her outspoken boldness and her silence.

As previously illustrated, Desdemona heals and hurts with her words, or lack thereof. Like Goneril, Desdemona is imagined as an alchemically bestial figure by other characters in the play. Goneril's true nature Lear describes as a "vicious predatory creature—serpent, wolf—and as a bird of death—vulture, kite" with a "wolvish visage" (Nicholl 167 and *Lear* 1.4.308). In alchemical theory, wolves, as emblems of double-natured Mercury, were viewed as destructive, sometimes corrosive, biting agents, sometimes healers (Nicholl 171). In theory, the wolf as symbolic of the *pharmakon*, destroyed and killed the base material only to enabling sulphur and mercury to experience further perfecting transmutation and purification. Desdemona is thus

perhaps not coincidentally depicted as a wolf in Iago's bestial imagery of act three, scene three, for it is the image of Desdemona as a copulating wolf that gnaws at and corrodes Othello's conscience until he resolves to "tear her all to pieces." Shakespeare might have easily chosen another bestial image, but the wolf is most fitting, as it carries with it the subtext of the alchemical *pharamkon*, a symbol that Desdemona now embodies.

Desdemona further presents a play on dual Mercury when she fails to cry mercurial healing tears like Cordelia does in *Lear* as she says, "What can man's wisdom / In the restoring his bereaved sense? . . . All blest secrets, / All you unpublish'd vertues of the earth, / Spring with my tears! Be aydant and remediate / In the goodman's distress" (4.5.8-9, 15-18). Cordelia speaks these words when she returns to aid her father, implying alchemy's medicinal value of healing tears: "The tears symbolize the mercurial waters of grace which seemingly drown the body [the base matter in the alembic] but which in reality wash away the impurities and make it ready to receive the enlivening soul" in the next stage of transmutation (Abraham, *Dictionary* 198).

In contrast, Desdemona's tears are "regenerative," but in a perverse way. Othello's comment on her tears after he strikes her in public can be taken as a reversal of the healing power of the "mercurial waters" when he says, "O, devil, devil! / If that the earth could teem with woman's tears, / Each drop she falls would prove a crocodile" (4.1.239-41). The reference to crocodiles is a veiled allusion to the corrosive mercurial spirit in the dark stages of *nigredo*, symbolized by the crocodile, which was categorized as a serpent in sixteenth and seventeenth century bestiaries (Abraham, *Dictionary* 48). For alchemists, gold was a naturally occurring substance formed from a tree that took thousands of years to flower within the earth from combinations of sulphur and mercury nurtured by the sun's rays. In an alchemical reading, Desdemona's tears fail to nourish the growth of the ideal elemental gold, and instead are said to

produce figures of chthonic chaos and suffering. Thus, corruptive tears in *Othello* seem to prefigure the tears of positive regeneration in *Lear*.

Images of Desdemona as double Mercury suggest a central aspect of the tragedy in *Othello*—that the transformations of one as pure as Desdemona can be fatal. The alchemical subtext forces us to a painful confrontation of the idea that the virtuous Desdemona becomes an equally guilty culprit, reminding us that even the best of human nature is fragile and susceptible to sudden transformation with sometimes irrevocable consequences. Ultimately, Desdemona proves to be a woman who virtuously defies authoritative traditions for the noble cause of love, but who is at the same time capable of submission in the critical moments that require her outspoken behavior. Instead of defending herself late in the play, as she does in the court scene, she silently bears insults and physical abuse. While she is a woman much admired and honored, with the potential to be Othello's Mercurial Elixir, she tragically exchanges her own notion of virtue for one which is culturally reassuring. This adds a new dimension to the nature of the play's tragedy: Desdemona fails in the moments that otherwise might have been her greatest triumphs.

Conclusion

We know little about Shakespeare's association with alchemical circles, other than the fact that George Carey, a devotee of Paracelsus, continued the patronage of Lord Chamberlain's Men after his father, Henry Carey, Lord Chamberlain, died in 1596 (Ball 86-87). We can glean more from Shakespeare's numerous allusions to the opus, both ribald and regenerative, in his plays and sonnets. While the playwright tends to exploit possibilities for redemptive transformation more often, as I have shown, alchemy exerts a less perceptible presence in *Othello*, one that must be teased out of an already complex set of cultural meanings relating to

Renaissance social hierarchies, gender ideals, and marriage traditions. Reading *Othello* through an alchemical lens suggests that it is reasonable to imagine a world in which the couple, if only momentarily, transcends the limits of companionate love with their *unio mentalis*. As their world is threatened by a villain who speaks the inverted language of the alchemist, infusions of alchemical imagery intensify Othello's and Desdemona's sudden transformations, adding much more meaning to Othello's affectionate jest to his wife when he says, "And when I love thee not, / Chaos is come again" (3.3.91-93). The whole alchemical crux of the play is foreshadowed in this line, for in alchemy, matter transitions from disordered chaos into ordered perfection. This alchemical structure is inverted in the play so that the lovers begin with the semblance of some perfection, or at least, an admirable attempt at more complete unity, but end in death and chaos. In a period in which the desires to penetrate the secrets of alchemy burned long into the night, Shakespeare could not have imagined a more fitting pattern for the drama of destabilization than inverted alchemy.

List of Figures

Figure 1. Emblem five of *Rosarium Philosophorum*. Union of sulphur and mercury, red king and white queen, man and wife in the initial stages of the *opus*.



Figure 2. Emblem 8 of *Rosarium Philosophorum*. Metaphysical representation of the union of opposites.

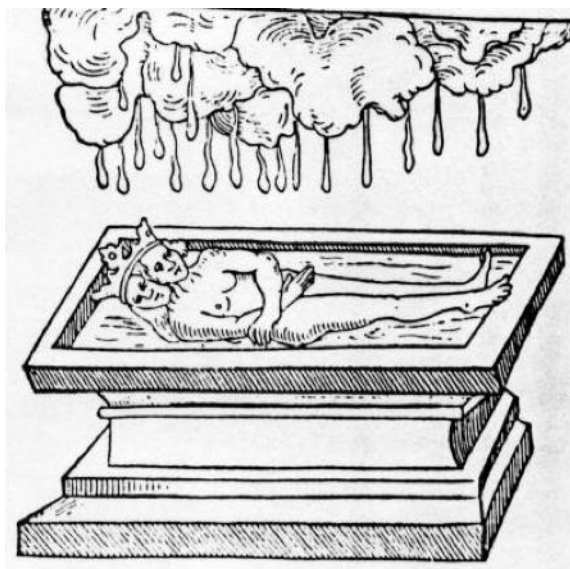


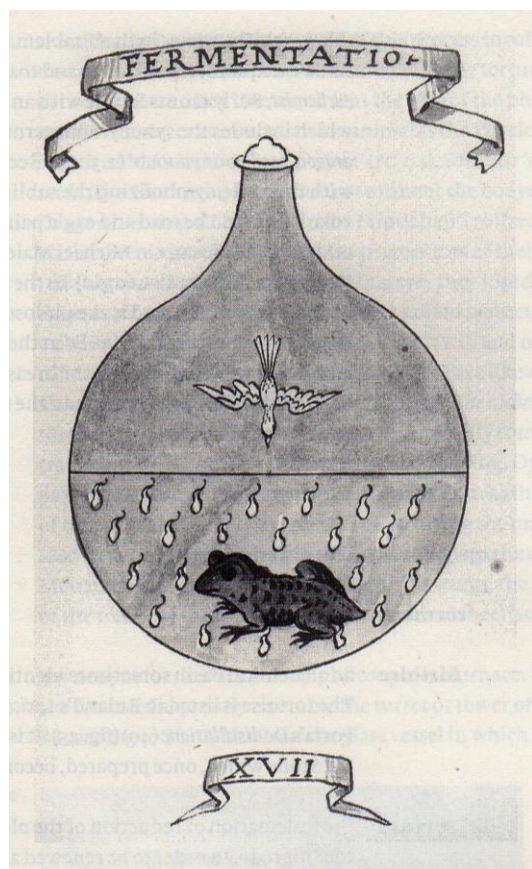
Figure 3. Emblem 9 of the *Rosarium Philosophorum* (1550). The purified soul hovers at the top of the alembic while the hermaphroditic body awaits further purification.



Figure 4. Emblem 10 of the *Rosarium Philosophorum* (1550). The triumphant, purified hermaphrodite figure signals the ultimate reconciliation of opposites at the end of the *opus*.



Figure 5. "The toad," from 'Coronatio naturae' (seventeenth century), University of Glasgow Library Ferguson MS 208, f. 19 [201]. The toad of the *nigredo* lying in the vapor of his dungeon.



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