"Stand and Unfold Yourself": Prince Hamlet Unmasked

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Barnardo: "Who's there?"

Francisco: "Nay, answer me, stand and unfold yourself" (I.i.1-2)

The night sentinels are simply confused, but these two important first lines of *Hamlet* also contain an insistent promise giving covert assurance that the playwright will reveal his most central and private aspects. *Hamlet*, Shakespeare's unique and "all-accommodating, 'personal' expression", (Honan 1999: 280) proves that the author's promise of self-revelation is generously kept, though disguised and Hermetically presented.

I. A Hermetic Shakespeare

It is notably in the scholarship of Hillary Gatti, and the late Dame Frances Yates, scholars of Giordano Bruno and the Renaissance who both addressed Shakespeare on the side, that we find sustained and convincing support for the presence of the Hermetic in Shakespeare.

Mysteriously, Yates claimed in 1975 that, "Bruno's Hermetic version of the art of memory seemed to raise the question whether here might be a clue to the vast powers of Shakespeare's imagination....but the time for writing a book on 'Shakespeare and the Hermetic Tradition' had not come nor has it come." (Yates 1978: 3) In *The Art of Memory*, Yates elusively refers to "the secret of Shakespeare...that has been missed" (Yates 1966: 353), and adds that the reason it had been missed was the exclusion of " the two native Hermetic philosophers, John Dee and Robert Fludd....from the attention of those interested in the English Renaissance." (Yates 1966: 353)

What was this "secret" that Yates hints at? Befitting a true scholar of Hermeticism, she left no record, but perhaps she is also alluding to it in this passage in *Giordano Bruno and the Hermetic Tradition* in 1964:

An entirely new approach to the problem of Bruno and Shakespeare will have to be made. The problem goes very deep and must include the study in relation to Bruno, of Shakespeare's profound preoccupation with significant language, language which "captures the voices of the gods"---to use one of Bruno's marvelous expressions---as contrasted with pedantic or empty use of language. Shakespeare's imagination is full of magic, which often seems to become a vehicle for imaginative solutions of the world's problems. Was it not Shakespeare who created Prospero, the immortal portrait of the benevolent Magus, establishing the ideal state? How much does Shakespeare's conception of the role of the Magus owe to Bruno's reformulation of that role in relation to the miseries of the times? (Yates 1964: 391-2)

In the *Art of Memory*, Yates describes more specifically how the art of memory, a Renaissance mnemonic technique that had developed from antiquity and the Middle Ages, (and something which Bruno refined and intertwined with his radical scientific ideas to produce his own version of), may have informed productions of Shakespeare's plays during his lifetime:

Is the Shakespearean stage a Renaissance and Hermetic transformation of an old religious stage? Are its levels a presentation of the relation of the divine to the human seen through the world in its threefold character? The elemental and subcelestial world would be the square stage on which man plays his parts. The round celestial world hangs above it, not as astrologically determining man's fate, but as the shadow of ideas, the vestige of the divine. Whilst above the 'heavens would be the supercelestial world of the ideas which pours its effluxes down through the medium of the heavens, and whither ascent is made by the same steps as those of the descent, that is through the world of nature. (Yates 1966: 351)

Yates speculates that "scenes (in Shakespeare's plays) with spiritual significance were scenes that were played high. *Juliet appeared to Romeo in the chamber*." (Yates 1966: 351) (my emphasis)

A Hermetic reading of *Hamlet* must also be fundamentally based on the idea that the line "Juliet is the sun", spoken by Romeo in the famous balcony scene in *Romeo and Juliet*, reveals a secret allegory about mankind's changing relationship to the sun (a celestial being) over time due mainly to our interaction with fossil fuels----that is to say, one aspect of nature. "Hermetic wisdom deals with nature and its works; it investigates the mysteries that lie within it" (Anonymous quoted in Ebeling 2007: 104) and to "lift this mystery of nature so as to reveal the causes of natural processes, causes that were hidden from the senses" is "almost a maxim of Hermetic research". (Ebeling 2007: 104)) In other words, the (Hermetic) allegory contained within *Romeo and Juliet* also presents a key for untying the Hermetic knot in *Hamlet*.

In an essay entitled "Bruno and Shakespeare: *Hamlet*", Hilary Gatti affirms the Hermetic nature of this particular play and the importance of many of Bruno's key ideas in it. Gatti notes that Hamlet's repeated insistence on remaining silent about the Ghost signals the presence of Hermetic secrecy. Interestingly, *higher and lower levels*, the castle ramparts open to the sky, also receive her attention:

Hamlet, speaking to Horatio....is insistent on the necessity for a close silence: 'Swear by my sword/Never to speak of this that you have heard'. For he has just been communing with the Ghost of his dead father on the castle ramparts, and already he knows that the message that Ghost has brought to him will threaten him and his friends with death. And so once again Hamlet urges his companions to silence: 'And still your fingers on your lips, I pray'. (Gatti 1989 118)

Gatti develops the idea, which other critics have supported, that *Hamlet* and Giordano Bruno's *Lo Spaccio della besta trionfante*, share many fundamental similarities. Gatti focuses on the concept of the working out of a total reform as one common point;

All he can hope from his studies and his writings, states Bruno wryly is 'material for disappointment': any prudential reckoning will consider silence more advisable than speech. What spurs Bruno to write at all is what he calls 'the eye of eternal truth'. It is in relation to this higher and divine dimension of justice that his message must be unfolded, the terms of a total reform worked out. The Explicatory Epistle then goes on to indicate briefly the vices associated with the various constellations and to visualize their defeat followed by the reinstatement of corresponding virtues. What (*Lo Spaccio*) involves is thus the visualization of a new era, the arduous working out of a plan of total reform. Only when this task has been completed can the heroic intellect allow itself to rest: 'There is the end of the stormy travail, there the bed, there the tranquil rest, there a safe silence.'

Hamlet, confronted like Bruno by a world become 'rank and gross', weighs the dangers and uses of words in very similar terms: 'It is not, nor it cannot come to good./ But break, my heart, for I must hold my tongue'. Then the Ghost, who announces himself as Hamlet's 'eye of eternal truth', spurs him to speak. Only when Hamlet, like Bruno, has penetrated and denounced the vices which dominate his world does he reach the end of his stormy drama with the advent of a new Prince. There, too, he finds 'the bed', the ultimate moment of quietness and safety: 'the rest is silence'.(Gatti, 1989: 120-1)

In a later version of her essay, Gatti notes that *Hamlet* and *Lo Spaccio* also share a major fundamental dynamic and structural plot similarity: a strong but increasingly decrepit power center (Jove and Claudius) is vexed and challenged by a powerless but witty, brilliant and radical outsider (Momus and Hamlet):

Lo Spaccio narrates the story of a macroscopic, universal reform undertaken trough the transformation of signs of the zodiac from bestial vices into reformed virtues, the entire operation being carried out by a Jove who considers himself an absolute prince, both in a political as well as a religious sense. Bruno, however, reminds his readers that even Jove, like all things that are part of the material world, remains subject to the laws of vicissitude, suggesting he is far from infallible, as he wishes to be considered. In order to underline this point, Bruno sees him as being accompanied throughout his long and meticulously organized reform by the suggestions of an ironic and satirical Momus, who gets dangerously close to appearing as the real hero of the story. (Gatti 2011: 149)

Momus was the god of satire in the classical world, and Bruno claims that Momus' role in the celestial court of Jove in *Lo Spaccio* is similar to the Fool or court jester in an earthly court: "where each (jester) offers to the ear of his Prince more truths about his estate than the rest of the court together; inducing many who fear to say things openly to speak as if in a game, and in that way to change the course of events." (Gatti 2011: 149) Speaking "as if in a game", including the Hermetic need and practice to use enigma, riddles, or allegory in order to hide a calculated message, can be seen as of course, Hamlet's "antic disposition", but also, more broadly, in my reading, as the whole play itself, which is an allegory, or a mind tool.

Gatti also sees the Brunian art of memory at work in *Hamlet*, first as a function of the Ghost's insistence that Hamlet "remember" him, and then in the "eternalizing" of Claudius' murderous act in the play-within-the play that Claudius must watch. (Gatti 1989: 153). Gatti concludes that, "(*Hamlet*) as a whole becomes a complex memory system, chronicling the times and thus eternalizing their acts, submitting them to the eye of absolute justice and eternal truth." (Gatti 1989: 153)

Gatti points out that it is Mercury, a god traditionally associated with rhetoric, who in *Lo Spaccio* is connected with 'eternalizing acts in memory': "to Mercury, the gods gave the task of ascertaining the vicissitudes of time down to the barest minimums and also of recording those vicissitudes in the tables of memory." (Gatti, 1989: 162) Hamlet, alone on stage after the Ghost has disclosed that he has been murdered by his brother, also resolves to "set it down" on "tables":

Remember thee!

Ay, thou poor ghost, whiles memory holds a seat

In this distracted globe. Remember thee!

Yea, from the table of my memory

I'll wipe away all trivial fond records,

All saws of books, all forms, all pressures past

That youth and observation copied there.

And thy commandment all alone shall live

Within the book and volume of my brain,

Unmix'd with baser matter. Yes, by heaven!

O most pernicious woman!

O villain, villain, smiling damned villan!

My tables----meet it is I set it down. (I.v.95-107)

Although Yates visualizes the "celestial" and "subcelestial" levels of the Shakespearean stage as functions of the art of memory, (and as possibly implying that the art of memory was more broadly at work in Shakespeare's plays), and although Gatti actually asserts that *Hamlet* is "a complex memory system", both scholars were unable to record further details. Yet if we combine their analytical strategies and then apply them to *Romeo and Juliet*, we arrive at the thesis that I have previously published: the lovers' scenes delineate an interaction between the celestial (Juliet) and the subcelestial (man, or Romeo), in a "complex memory system" recording the "vicissitudes" mankind would face over time in a long interaction with sun and coal, with these vicissitudes then recorded "in their very barest minimums", the turning points from one type of energy to the other, without details.

II. Who is the Sun Figure in Hamlet?

The opening scene with the "castle ramparts open to the sky" invites us to wonder if the character most closely associated with this location, namely the Ghost of Hamlet's father, may, like Juliet, have a hidden identity in Yates' "celestial" sphere of action.

Hamlet twice refers to his father as "Hyperion", who is associated with the sun in ancient mythology and who is sometimes called a "sun god" (Evans 1974: 1145). Hyperion was called the "Lord of Light" and the "Titan of the east", and was referred to in early mythological writings as "Sun high one" (Helios-Hyperion). In Homer's *Odyssey*, Hesiod's *Theogony*, and the Homeric *Hymn to Demeter*, the sun is called (once in each work) "Hyperionides", or 'the son of Hyperion'.

The two "Hyperion" passages in *Hamlet* show striking similarities: they are both scathing comparisons between the old king and the new king Claudius. In both, Hamlet expresses bewilderment and rage that Gertrude should settle for the inferior one:

... That it should come to this!

But two months dead, nay, not so much, not two

So excellent a king, that was to this

Hyperion to a satyr, so loving to my mother

That he might not beteem the winds of heaven

Visit her face too roughly. Heaven and earth,

Must I remember? (I.ii.137-142)

The second occasion of the word "Hyperion" in the play occurs in Hamlet's long scene with Gertrude:

Look here upon this picture, and on this,

The counterfeit presentment of two brothers.

See what a grace was seated on this brow:

Hyperion's curls, the front of Jove himself,An eye like Mars, to threaten and command,A station like the herald MercuryNew lighted on a heaven-kissing hill....This was your husband. Look you now what follows:Here is your husband, like a mildewed ear,Blasting his wholesome brother. (III.iv.53-59; 63-65)

The word "heaven" appears together with the image of Hyperion, enhancing the idea of height and the sky, the celestial level, and therefore the sun. Speculating, but not wildly, we can say that the dead king may be the "dead" sun economy. By 1603, England's primary fuel was no longer wood (i.e: driven by the sun), but coal. (Freese 2003: 33) The sun economy, like Hamlet's father, had been usurped by another.

The allegory becomes clearer: When Hamlet makes the exclamation "Heaven and earth" in the first quotation, it is possible, because of the construction of the poetry, to draw a parallel between the relationship of his father to his mother. (Heaven=Hyperion=Father); (Earth=Mother). In the allegorical world of *Hamlet*, the relationships reveal that Gertrude, the mother, is the ("earth"----- here the receiver of sustenance and wherewithal from the Heavens, the sky); also we can add to this idea the notion of earth as English society having to choose the expedient fuel, coal, represented by Claudius in the "memory system" or allegory.

Furthermore, a speech by Horatio preceding the second entrance of the Ghost indirectly sets up and introduces the Ghost's celestial significance and function in the play:

A mote it is to trouble the mind's eye In the most high and palmy state of Rome, A little ere the mightiest Julius, The graves stood (tenantless) and the sheeted dead Did squeak and gibber in the Roman streets. As stars with trains of fire, and dews of blood, Disasters in the sun; and the moist star Upon whose influence Neptune's empire stands Was sick almost to doomsday with eclipse. And even the like precurse of fear'd events, As harbingers preceding still the fates And prologue the omen coming on, Have heaven and earth together demonstrated Unto our climatures and countrymen. (Li.112-125) *Enter* Ghost Therefore, the celestially-linked situation in "high" Rome elevates the prosaic political situation, made disastrous by the loss of the old King, into the noble Antique sphere and "eternalizes" it through allegory. This mirrors the aim of *Hamlet* to do precisely the same thing: to link England's fuel situation to the eternal cosmic dimension and have its main figures represent, in allegory, a celestial situation.

Moreover, many words in this monologue, in homage to the philosopher, recall the historical particulars of Giordano's Bruno's 1600 execution: the location in "Rome", "stars with trains of fire" recall Bruno's astronomical theory that the sun was an ordinary star and that stars themselves were not "pure' fire, but materially the same as the rest of the cosmos; the "sheeted dead" in the Roman streets may be seen as an allusion to the public execution of Bruno on February 17, 1600, while "Disasters in the sun" may ironically reference the radical heliocentric ideas of Bruno. The eclipse may be referring to a lunar eclipse of January 30, 1600, visible from both England and Italy, while the "mightiest Julius", Julius Caesar, was assassinated in Rome at Pompey's Theater, which is in very close proximity (250 meters, using Google Map) to the Campo dei Fiori, the scene of Bruno's execution. Moreover, *Hamlet* is thought to have been completed by 1601, a year after Bruno's death.

III. The Arrival of the Players

Where can we fit Prince Hamlet himself into the allegory? Hamlet is interested in staging and writing plays that, as he puts it, show "the very age and body of the time his form and pressure". (III. ii.23) Notably, Hamlet writes deviously and hides critical messages, such as the letter commanding the execution of Rosencrantz and Guildenstern. ("folding the writ up in the form of the other...the changeling never known." (V.ii.51-3)) Hamlet, a fighter and a writer, must be Shakespeare. If we follow Gatti's analysis of what she calls "the Brunian core" (Gatti 1989: 139) (basically Act II scene ii) of *Hamlet*, we can even peer very specifically into the intellectual initiation of the playwright. It is important to understand which book Hamlet is in all likelihood reading:

Polonius: ... What do you read, my lord?

Hamlet: Words, words, words.

Polonius: What is the matter, my lord?

Hamlet: Between who?

Polonius: I mean the matter that you read, my lord.

Hamlet: Slanders, sir; for the satirical old rogue says here that old men have grey beards, that their faces are wrinkled, their eyes are purging thick amber and plumtree gum, and that they have a plentiful lack of wit, together with most weak hams; all which, sir, though I most powerfully and potently believe, yet I hold it not honesty to have it thus set down....(II.ii. 191-202) Gatti and many others have noted the strong echoes in the above with one passage from Dialogue I of *Lo Spaccio*:

Look, my body is wrinkling and my brain getting damper: I've started to get arthritis and my teeth are going; my flesh gets darker and my hair is going grey; my eyelids are going slack and my sight gets fainter; my breath comes less easily and my cough gets stronger; my hams get weaker and I walk less securely. (Bruno, quoted in Gatti 1989: 142)

Hamlet's description of this book as "slanders" can be an ironical reference to the fact that *Lo Spaccio* was the only work of Bruno's singled out by name by the Roman Inquisition. Hamlet's phrase "the satirical rogue" also points to Bruno, executed for heresy, and Bruno's dialogues exhibit many witty elements.

Allegorized as Hamlet reading a book, Shakespeare's initiation into Bruno's ideas, then his application of them to what Yates calls "the miseries of the age"--- explains how Shakespeare undertakes to channel his problem with his coal-hungry society.

Shakespeare allegorizes his own sense of distance as Hamlet's "antic disposition", particularly vivid in the scene with Polonius, (part of this "Brunian nucleus") where the hero cannot communicate on open-handed terms with the people at the court. He scorns them, mocks them, and of course they are variously corrupt, stupid and criminal--- but the results of the "antic disposition" are also detrimental psychologically to Hamlet himself. His way out of this personal crisiswill be to stage a play. To understand the autobiographical aspects of Shakespeare's life as a dramatist—how he saw his professional role---and how these are allegorized in *Hamlet*, the act of staging a play is very important. Gatti notes that the nucleus of the "Brunian core" of Hamlet "begins with Polonius's reading of Hamlet's letter and covers the whole of the hero's own presence on the stage in this scene from his entrance 'reading a book' *until the arrival of the players*." (Gatti 1989: 139) (my emphasis)

As the players enter and Hamlet turns away from Polonius, Hamlet addresses the players in a warm greeting and at the same time, he instantly stops being sarcastic, scornful, and alienated:

Hamlet: You are welcome, *masters*, welcome all. I am glad to see thee well. Welcome, good friends. O! *Old friend*! Why, thy *face* is valenc'd since I saw thee last; com'st thou to beard me in Denmark? What, my young lady and mistress! By ' lady, your ladyship is *nearer to heaven* than when I saw you last, by the *altitude* of a chopine. *Pray God*, your voice, like a piece of uncurrent *gold*, be not crack'd within the *ring*. *Masters*, you are all welcome. We'll e'en to it like French *falc'ners---*fly at anything we see; we'll have a speech straight. Come, give us a taste of your *quality*, come, a passionate speech. (II. ii. 421-432)

Hamlet's antic disposition has fallen away, if only for a while. The greeting gives Shakespeare the perfect dramatic logic to vary the vocabulary wildly as Hamlet turns from player to player: but I

suggest that the important (italicized) words are so unexpected in such a setting, and give a jangling, startling impression that they could stick out in the subconscious and form, with Hermetic intentions and effects, a subtle web of meaning that forms a mental image of the sun.

Dramatic performance and utterance, relying on the moment and on emergent apprehension, on sound, on the way the brain relates the meanings of the words to each other yet processes them instantly in turn, is the perfect medium to give these unexpected words prominence. The technique ensures that this moment of Hamlet's new identity as a sun figure would be only *subconsciously* apprehended. The effect would be a bit mystical or subliminal, and indeed, others have noted a "numinous aura around" Hamlet (de Santillana and Von Duchend 1977: 1). But Hamlet's words recall the *altitude* of the sun, a *gold*en round thing, something familiar (*old friend*), a *falcon* (a bird that flies high, associated with the ancient Egyptian sun god Horus; Renaissance Hermetics were well versed in Egyptian mystical religious lore). "Pray" and "god" recall the former sacred dimension of the sun in Europe.

This 'secretive' interpretive methodology may seem unusual, but noted Shakespeare critic Stephen Booth urges Shakespeare scholars to:

pay attention to the 'ideational static' generated in Shakespeare's plays, by substantively insignificant, substantively inadmissible, substantively accidental linguistic configurations----*configurations in which lurk topics foreign to the sentences in which we hear them*". (Booth, quoted in Rosenbaum 2006: 456-7) (my emphasis)

Shakespeare, aware that drama had its historical origins in festive seasonal rituals and religious ceremonies which paid homage to the sun, seems to have decided to continue the tradition. His secret devotionalso likely became a *spiritual mission*. The idea, again, is Brunian: the sun is not a god, but God is present in the sun (and all things); therefore the sun partakes of the divine: "The Spirit above everything is God, the Spirit implanted in things is Nature-----Mens super omnia Deus est, mens insita in rebis Natura ". (Bruno, quoted in Michel 1962: 115)

In Shakespeare's creative application of verbal and linguistic techniques and patterns that are intentionally devised to escape conscious notice, he is again also following principles that Bruno, a *(Renaissance magus, as Yates calls him repeatedly), laid out:*

...natural magic, for which Bruno shows more than tolerance.....causes God to act on everything through the intermediary of the soul; whence it follows that the 'forces' are concealed in the womb of matter, and that is it neither impossible to recognize them, nor impious to utilize them or to try to utilize them to the profit of man" (Michel 1962: 115).

IV. Coal in Hamlet, Secretly Inscribed

Once the secret sun-coal opposition is recognized, the Hermetic references to coal in *Hamlet* are relatively easy to spot. Notably, one passage, a kind of insolent retort to Gertrude, both disguises its references to coal while expanding on coal's ill effects. Following hermetic principles of allegory and secrecy (since "a hermetist was someone who guarded a mystery that obliged him to secrecy" (Ebeling 2007: 103)) the reference to coal is preceded by 10 lines by Hamlet's line, "I am too much in the sun", hinting at his 'solar' leanings. Hamlet's retort to Gertrude subtly alludes to the coal soot that covered clothes and other fabrics, as well as the health effects (watery eyes, coughing) of breathing coal smoke:

Hamlet: Seems, madam? Nay, it is, I know not "seems".

'Tis not alone my inky cloak, good mother,

Nor customary suits of solemn black,

Nor windy suspiration of forc'd breath,

No, nor the fruitful river in the eye,

Nor the dejected havior of the visage,

Together with all forms, moods, shapes of grief,

That can denote me truly. These indeed seem,

For they are actions that a man might play,

But I have within that passes show,

These but the trappings and the suits of woe. (I.ii.76-86)

The ideological stance of the playwright is framed in allegory: people in Elizabethan society mainly carried on as well as they could as the sun economy was dismantled and replaced by a fasterpaced and capital-intensive coal-based economy. "The transition (of London) from a wood-burning city to one that relied largely on imported coal had far-reaching consequences." (Brimblecombe 1987: 33)

By commenting on "that within which passes show", Shakespeare is calling attention to the systemic material necessity of humans to use this resource. Brimblecombe notes a "significant modification in attitudes" (1987: 34) towards (accepting) coal in the late sixteenth and early seventeenth centuries as the "rapidly rising domestic consumption" (1987: 34) of coal was necessitated by economic pressures.

Other secretive references to coal in *Hamlet*, especially to its smell, are found in speeches matching the secret allegorical role of the character voicing them, and also that convey the negative or salient qualities of coal smoke in an undercover way. Claudius, the coal economy, usurper of the old sun economy begins his famous angst-ridden monologue in Act III with: "O, my offense is rank, it smells to high heaven" (III, iii, 34) and ends with his address to himself: "O bosom black as death!/

O limed soul, that struggling to be free art more engag'd." (III, iii, 67-68) Black describes the color of coal and coal smoke. "Lime" was a substance particularly associated with coal (since coal fueled lime kilns), while the struggle to produce more coal was engaging the British more and more in the necessity to produce even more. The anxiety of a society pushed by systemic factors to use the new fuel resource is depicted fairly and rather sympathetically.

Hamlet later complains about "a foul and pestilent congregation of vapors" in another monologue, where, again, he notes his sadness:

I have of late----but wherefore I know not----lost all my mirth, foregone all custom of exercises; and indeed it goes so heavily with my disposition that this goodly frame, the earth, seems to me a sterile promontory; this most excellent canopy, the air, look you, this brave o'erhanging firmament, this majestical roof fretted with golden fire, why, it appeareth nothing to me but a foul and pestilent congregation of vapors. What a piece of work is man...and yet to me, what is this quintessence of dust? Man delights not me---nor woman neither, though by your smiling you seem to say so. (II, ii, 295)

The "roof fretted with golden fire" recalls the sun shining in the sky, but its beauty cannot be appreciated because of a "foul and pestilent congregation of vapors". Gatti makes the point that "quintessence of dust" is a reference to Bruno's rejection of the Aristotelian idea that a "quintessential" element, materially totally, was to be found beyond the elemental spheres in the sky. (Gatti 1989: 149) Hamlet's satirical lines bemoan man's position as "dust", recalling again ("pestilent vapors") pollution, perhaps also the Biblical reference to people as "dust to dust" (Genesis 3:19) and linking these also to Aristotle's idea of the "quintessence", and therefore, in microcosmic form, Aristotle's ideas and coal are subtly associated with Christianity, a subtle religious critique.

Incidentally, Gatti identifies a "provocative" Brunian conception of "the Christ figure" as an "oppressive historical function" in *Lo Spaccio*, and she wonders if Hamlet "can be subjected to such a militantly anti-Christian interpretation". (Gatti 1989: 157). Elsewhere, Gatti sees Bruno's philosophy as having positively "no room for revealed religions of any kind" (Gatti 2011: 318) principally based on his conception of a universe in a state of "never-ending flux". (Gatti 2011: 319) Thus Brunian vicissitudes, which are in opposition to Aristotelian "quintessence", a supposedly eternally unchanging and perfect substance that Hamlet here sarcastically links with pollution ("quintessence of dust") are subtly championed.

In *Hamlet*, there is another line--"extorted treasure in the womb of the earth"--- that can be seen to refer directly to coal mining:

Enter Ghost

Horatio: But soft, behold! Lo where it comes again!

I'll cross it though it blast me. Stay, illusion!

If thou hast any sound or use of voice,

Speak to me.

If there be any good thing to be done

That may to thee do ease, and grace to me,

Speak to me.

If thou art privy to thy country's fate,

Which happily foreknowing may avoid,

O speak!

Of if thou hast uphoarded in thy life

Extorted treasure in the womb of earth,

For which, they say, your spirits often walk in death,

Speak of it, stay and speak! (I.ii.126-37)

Horatio has guessed wrong, of course: it is not the Ghost who has "uphoarded extorted treasure in the womb of the earth", but by mentioning this activity and linking it with the Ghost's hauntings (indeed the Ghost has 'died' because of coal)---- "For which, they say, your spirits often walk in death"----here Shakespeare gets closer than usual in *Hamlet* to condemning coal directly. The word "mines" actually appears later when Hamlet says (speaking metaphorically of his revenge on Rosencrantz and Guildenstern, the paid spies of Claudius, and therefore associated with him):

For 'tis the sport to have the engineer

Hoist with his own petar, an't shall go hard

But I will delve one yard below their mines,

And blow them to the moon. (III.iv. 208-9) (emphasis mine)

Not surprisingly, then, linking "coal" with "death" imagery seems to be relatively common in Shakespeare's works. Shakespeare uses the word "coals" 32 times in all his works and there is something sinister about the majority of its associations, even when it is just used as a simile for its color or its fire. The word "coal" is repeatedly placed near words that express *death*, *war*, *destruction and filth*:

From 2 King Henry VI:

O war, thou son of hell

Whom angry heavens do make their minister,

Throw in the frozen bosoms of our part

Hot coals of vengeance! (V.iii.33-36)

From *King John*:

Your breath first kindled the dead coal of wars... (V.ii.83-4)

From The Rape of Lucrece:

His honor, his affairs, his friends, his state,

Neglected all, with swift intent he goes

To quench the coal which in his liver glows. (45-7)

.....

"The crow may bathe his coal-black wings in mire,

And unperceiv'd fly with the filth away...(1009-10)

And dying eyes gleam'd forth their ashy lights,

Like dying coals burnt out in tedious nights (1378-9)

From The Winter's Tale:

And all eyes else dead coals! Fear thou no wife:

I'll have no wife, Paulina. (V.i.68-70)

(Considerations of space prevent me from adding more examples, though many exist.)

An interesting Hermetic aspect of Shakespeare's use of the word "coals" is that this word *does not* appear once in *King Lear, Othello, Hamlet and Macbeth*, some of his most famous tragedies, making it probably a deliberate excision.

V. Heliocentrism and Coal

In *Hamlet*, the word "heaven", which appears 46 times in the play, is important not just for its moral connotations of God and angels or the issue of the sun economy versus coal, but also because the word "heaven", as sky, firmament, or celestial space, also denotes the issue of competing cosmologies, a scientific question that still had not been settled in Europe in 1600.

Claudius' line "O, my offense is rank, it smells to heaven" (III.iii.36), not only secretly references coal, but also points to the inappropriate dealings Claudius, usurper of the sun economy, has with "heaven". While Claudius' most important secret association is with the coal economy, Shakespeare also wishes to show that heliocentrism (that is to say a scientific basis) is the reason for the falseness of Claudius. Therefore it is interesting that Professor of Astronomy Emeritus Peter Usher, sees Claudius' name as a reference to Claudius Ptolomey, whose *Almagest* (140 A.D) set forth the geocentric model of the cosmos. (Usher 1999: 6) Usher's main thesis, is that *Hamlet* may be an allegory that affirms the Copernican model of the universe.

Usher makes a strong case that Claudius, who uses the word "retrograde" (I.ii.114) and who is on stage when Polonius says "I will find where truth is hid, though it were hid within the centre" (II. ii.157-9) is associated with Claudius Ptolemy's geocentric model, unchallenged for 1300 years, that posited the planets and the sun turning in epicycles (to account for retrograde motion) that looked like a series of wheels around a fixed Earth in the center of the universe. Usher's most interesting idea concerns the Ptolemaic echoes in Rosencrantz's speech to Claudius about a king being similar to a "wheel" and finds the "wheel" imagery very significant in this speech: The cess of majesty Dies not alone, but like a gulf doth draw What's near with it. Or it is a massy wheel Fix'd on the summit of the highest mount, To whose huge spokes ten-thousand lesser things Are mortis'd and adjoin'd, which when it falls, Each small annexment, petty consequence, Attends the boist'rous ruin. Never alone Did the King sigh, but with a general groan. (III.ii.15-23)

Although Usher is correct to note the geocentric imagery attached to Claudius, and the significance of his name, he does not put Bruno into the picture, and so misses the significance of the heliocentric references he uncovers. This is to say that, as coal energy, Claudius also denotes a type of falsity, a related error in cosmological thinking, since heliocentrism affirms and validates the structural resilience of the sun economy.

Shakespeare mainly used the heliocentric ideas of Giordano Bruno, a systemic view, in line with the way that Bruno scholar Ingrid Rowland characterizes Bruno's ideas as "the forest itself" (Rowland 2008: 109), a cosmic ecosystem of ultimate generative inputs, not merely Copernicus' narrower mathematical calculations. In the new infinite and radically centerless universe that Bruno posited, the earth depends totally on the sun. Bruno's *Lo Spaccio*, the very book Gatti convincingly asserts is in Hamlet's hands, starts off with:

He is blind who does not see the sun, foolish who does not recognize it, ungrateful who is not thankful unto it, since so great is the light, so great the good, so great the benefit, through which it glows, through which it excels, through which it serves, the teacher of the senses, the father of substances, the author of life. (Bruno, 1584: 69)

In particular, the "father of substances" and "the author of life" shows Bruno's awareness of the sun's role in generating the material to support life on earth. Bruno looked beyond just the Copernican mechanics:

The Earth, in the infinite universe, is not at the center, except in so far as everything can be said to be at the center. In this chapter it is explained that the Earth is not central amongst the planets. That place is reserved for the Sun, for it is natural for the planets to turn towards its light and heat, and accept its law. (Bruno, quoted in Michel, 1962: 181)

Bruno's "new" cosmology was also, of course "old" in the sense that heliocentrism had already been proposed by the Greek astronomer Aristarchus of Samos, in the third century B.C., while other ideas Bruno included in his cosmology can also be seen, at least in nascent forms, in arrangements put forth by other ancient Greek thinkers.

More broadly, and Shakespeare, in touch with many old texts, probably was sensitive to it: ancient myths and legends had often addressed astronomy and celestial phenomena. The Danish Saxo Grammaticus' 12th century 16-book *Gesta Danorum*, a heroic history of the Danes, is from a collection of "written and oral legends that reached back centuries before him". (Greenblatt 296) One story, *Amleth*, in *Gesta Danorum* is a major source for *Hamlet*, and the legend from which Saxo derived *Amleth* was the Norse myth *Amlhodi*:

Amlhodi was identified, in the crude and vivid imagery of the Norse, by ownership of a fabled mill which, in his own time, ground out peace and plenty. Later, in decaying times, it ground out salt, and now, finally, having landed at the bottom of the sea, it is grinding rock and sand, creating a vast whirlpool, the Maelstrom....This imagery stands, as the evidence develops, for an astronomical process, the secular shifting of the sun through the signs of the zodiac which determines world-ages, each numbering thousands of years. (De Santillana and Von Dechend 1977: 2)

Gatti also notes that both Bruno's *Cena delle Ceneri* and *Hamlet*, demonstrate a "concern with deciphering the language of a new and larger cosmos" (Gatti 1989: xi). These cosmological concerns and ideas are intrinsic to *Hamlet*, but what has been missing is how *Hamlet* is a demonstration of Bruno's ideas and their impact on Shakespeare.

Bruno first presented his astronomical ideas in three dialogues: *La Cena de la ceneri, De la causa, principio et uno.* and *De l'infinito universe et mondi*, and all were written in Italian during his stay in England and published in England from the latter half of 1584 through 1585. Shakespeare would have been about 20 at the time. A printer in London named Thomas Vautrollier, a Protestant refugee from Paris, employed an apprentice named Richard Field, a man from Stratford-upon-Avon whose father worked with Shakespeare's father. Vautrollier published several of Bruno's works and it is possible that Shakespeare had access to them through Field. (Greenblatt 2004: 193)

VI. Ophelia in the Allegory

Bruno's art of memory, which "brought heaven down to earth by capturing sublime ideas in physical form" (Rowland 2008: 122), was a product of his belief in a cosmic unity. "When you conform yourself to the celestial forms, 'you will arrive from the confused plurality of things at the underlying unity'.....for when the parts of the universal species are not considered separately but in relation to their underlying order-----what is there that we may not understand, memorise and do?" (Bruno, quoted in Yates 1964: 219) More technically, Bruno's art of memory has been described as "modeling":

Bruno describes the practice of artificial memory as "clever application of thought" to "presenting, modeling, noting, or indicating in the likeness of painting or writing, ir

order to express or signify"..... the art of memory isolated individual sense perceptions from the stream of consciousness and endowed these perceptions with special characteristics that transformed them into thoughts; the thoughts then singled out for attention could then be put into what Bruno called "a distilled and developed order of conceivable species, arranged as statues, or a microcosm, or some other kind of architecture---by focusing the chaos of imagination". (Rowland 2008: 123)

Bruno's art of memory is the background from which sprang Shakespeare's cosmic allegories. If so, then who is 'the fair Ophelia', Hamlet's major romantic interest within the allegory?

Through the strings of dialogue spoken by Ophelia or addressed to her, we see clusters of flower and plant names again and again. In addition, her name (original in *Hamlet* and not found in the major sources for the play) can be broken down into two parts: "of Helios", of the sun. Ophelia represents wild, blooming, and gorgeous nature: meadows of wildflowers, green woods replete with beneficial herbs, gifts directly from the sun.

When we first see Ophelia (first impressions and first lines in Shakespeare are immensely important), her brother, Laertes, is lecturing her heavy-handedly. Hamlet's love, warns Laertes, is just a fleeting spring flower:

For Hamlet, and the trifling of his favor,

Hold it a fashion and a toy in blood,

A violet in the youth of primy nature,

Forward, not permanent, sweet, not lasting (I.ii.5-8) (my emphasis)

Thirty five lines later, he is still speaking along these general lines, although in the later lines, the plant is not given a name, and is instead (of being a metaphor for fleeting love) now a metaphor for a young woman who has too hastily yielded her sexual favors:

Virtue itself scapes not calumnious strokes.

The canker galls the infants of the spring

Too oft before their buttons be disclos'd,

And in the morn and liquid dew of youth

Contagious blastments are most imminent. (I.iii.38-42)

By shifting the plant image to the woman, the plant image is subtly imposed onto Ophelia, to whom the lecture is addressed.

Of course, Laertes' fears are exactly and ironically realized: Ophelia dies in her youth, but not because she inappropriately yields her sexual favors to Hamlet. Green nature must yield to the new economy based on capitalism and the use of coal. Ophelia, like the frail violet in the image is "not lasting". But the second metaphor Laertes resorts to, the image of the canker, the contagious blastments, comes critically nearer to the issue of coal smoke and the subsequent condition of plants and flowers in London at the time. Ophelia's 'tragedy' is that as the coal economy took hold, meadows were increasingly enclosed and used for sheep farming or more intensive crop production. Furthermore, an Elizabethan "construction boom" (Weimann 1978: 164) ensured that many woods and dales became places for buildings and small workshop-factories: for example, the number of furnaces for iron production tripled, and "moneyed landlords enclosed the commons" (Weimann 1978: 165) for more intensive for-profit agriculture, not communal sustenance. Plants were also extensively damaged by coal smoke in London. Sulfur dioxide, a volatile product of coal combustion, was to blame for the damage to plants:

It does seem that vegetation is injured by gaseous sulphur dioxide directly.....(a)

t higher concentrations the leaf can no longer cope with the amount of pollutant, the cells of the mesophyll collapse..... (Brimblecomb 1987: 69)

Actually, Ophelia *will* succumb to an early death, a bud withering on the vine, in a precise and eerie fulfillment of Laertes' metaphor. But her life expires rather by her being exploited by Polonius (set up as a trap to get Hamlet to divulge his secrets), by being rejected by Hamlet (who feels his duty is to avenge his father's murder), and finally be being grief-stricken by the death of her father. I will show that each of these blows to Ophelia's sanity are caused (or shown to be caused) ultimately by Claudius.

It is one of the interesting mysteries of *Hamlet* that when Polonius devises the plot to "loose (Ophelia) to (Hamlet)" (II.ii.162) in order to spy on him, Hamlet is not present to overhear this idea, yet he soon thereafter makes this comment (seemingly mad) to Polonius: "O Jephthah, judge of Israel, what a treasure hadst thou!" (II.ii.402). (In *Judges 11*, we read that Jephthah, although reluctantly, sacrificed his daughter to God by burning her alive.) Does Hamlet mean to insinuate, though he does not know of Polonius' plot to hide while Ophelia chats with Hamlet, that Polonius will similarly and cruelly sacrifice his daughter? To investigate, it would be good to read the whole exchange:

Hamlet: O Jephthah, judge of Israel, what a treasure hadst thou!

Pol.: What a treasure had he, my lord?

Hamlet: Why---"One fair daughter, and no more

The which he loved passing well."

Pol.: (aside) Still on my daughter.

Hamlet: Am I not i' the right, old Jephthah?

Pol.: If you call me Jephthah, my lord, I have a daughter that I love passing well.

Hamlet: Nay that follows not.

Pol.: What follows then, my lord? (II.ii.402-414)

Although Hamlet technically does not know about Polonius' idea to use Ophelia as a device to ferret out information, yet, from the exchange above, it almost seems as though he does know about

it. The whole issue of what Hamlet means here becomes another occurrence of 'ideational static used to indicate the presence of something subtle, vital and urgent. But what?

The "Jephthah" passage immediately precedes the hugely significant passage of magic when Hamlet assumes the mantle of a new "sun figure" in his greetings to the players. In fact, the "Jephthah" passage is interrupted by the entrance of the players:

Pol.: What follows then, my Lord?

Hamlet: Why----

"As by lot, God wot," and then, you know, "It came to pass and most like it was"-----

The first row of the pious chanson will show you more, for look where my abridgement comes.

Enter the PLAYERS, (four or five) II.ii.414-421)

By showing Hamlet becoming a sun figure immediately after talking to Polonius about his daughter, we can see that Hamlet's need to become a sun figure is born from the cloaked but urgent message transmitted in the "Jephthah" exchange in the form of a riddle, "as if in a game". Ophelia will also, in effect, be sacrificed..

One prophetic note could be fruitfully examined here, and that is the hint from Hamlet, a reference to the ballad (Hamlet calls it "the pious chanson" (II.ii.419)) "Jephthah, Judge of Israel". Hamlet sings, though with a few interruptions, almost all the first stanza of this ballad, ending with "It came to pass, as most like it was". Then he directs Polonius to examine the rest of the song by himself: "the first row of the pious chanson will show you more" (II.ii.419-20). ("Row" here means "stanza" (Evans 1974: 1157)) and there is only one line left in this stanza that he has not sung. The line after "It came to pass.." is:: "Great warres there should be and who should be the king but he ?" Shakespeare probably intended something definite with this clue, and was predicting a long series of political struggles ("warres") born from the victor's need to constantly use, produce and consume fossil fuels.

Although he understands her plight, Hamlet cannot save Ophelia. Shakespeare functioned totally within the city and wrote his complex plays not to save Elizabethan nature, but in order to be deciphered one day.

Ophelia goes mad after her father dies and then she drowns herself. The scenes of madness and the lines narrating her death are another litany of plants and flowers, nearly an entropic explosion of botanical words.

In addition, the mad Ophelia sings folk music, with rural scenes of simpler times and 'nonsense' ("cockle hat", "sweet Robin", "hey nonny, nonny"). Her song snippets and nonsense verse recall the elements of the disappearing rural folk culture. To subtly underscore the passing of the old culture of the sun economy, Ophelia sings: "Quoth she, 'Before you tumbled me/You promis'd me to wed/ So would I 'a' done, by yonder sun/And thou hadst not come to my bed" (IV.v.63-6) To swear by the

sun is insist that the sun has authority. But that authority is now finished. Only the 'mad' and fools may discuss it----and in fact, Hamlet's antic disposition (a kind of calculated madness) and his own play-within-a-play (ficton, therefore related to fools or paid entertainers, or "as if in a game") also license him to speak of this banned topic. *Hamlet* as a whole, another fictional representation, also "as if in a game", through its micro/macrocosmic structure, then participates in the same project---an amazing, daring and calculated act.

Who ultimately is to blame for Ophelia's death? Polonius? Laertes? Claudius? One clue---the important "wheel" image, again---- comes in her "mad" ranting:

You must sing, "A-down, a-down," and you call him a-down-a. O how the wheel

becomes it! It is the false steward that stole his master's daughter. (IV.v.171-3)

The daughter, Ophelia has been "stolen away" by a "false steward". Shakespeare ingeniously plays with different meanings of the word "steward" here: 1)someone who is paid to attend to provisioning a household or 2)someone who is entrusted to take care of the well-being of another entity. Claudius, as a king, is therefore a steward of his kingdom----but he is a *false* steward. The interesting use of the word "wheel" in "oh how the wheel becomes it" connects with the previous "wheel" imagery associated strongly with Claudius; (Rosencrantz: "The cess of majestyOr it is a massy wheel..." (III.iii.15-18)).

It is Claudius (with the word "it" in "oh how the wheel becomes it" referring to the inhuman entity coal) who is ultimately responsible for the death of Polonius, and also Ophelia. Polonius, a pedant modeled on the erring pedant (with the similar name "Polinnio") in Bruno's *Dialoghi italiani* and a "cultural prop of the new King's Court" (Gatti 1989: 131), is as much a victim of the new coal economy and its 'falseness' as the others are. Claudius is the real villain.

VII. Conclusion: the Wheel

The word "wheel" is used only thrice in *Hamlet*. The image first appears in the First Player's speech:

Out, out, thou strumpet Fortune! All you gods,

In general synod take away her power!

Break all the spokes and fellies from her wheel,

And bowl the round nave down the hill of heaven

As low as to the fiends!" (II.ii.493-7)

The rigid spokes of the "wheel fix'd" in the speech to Claudius bespeak the fragility of the wheel to which he is compared, which collapses in a "boisterous ruin" (III.iii.22). This rigid wheel, a powerful entity that completely gives way, can be paired with another calamitous and collapsing wheel, that of the Goddess Fortune in the First Player's speech above. The wheel associated with

Claudius shares the same archaic and broken aspects, and becomes another failure that needs to be rethought. Its fixed center, which cracks and bursts when under pressure, exposes its vulnerability.

For Shakespeare, Bruno's concept of "vicissitudes", material reality subject over time to perpetual change, with no fixed center, "a process of never-ending flux" (Gatti 2011: 319) was a better way, for it is certainly not Claudius, but only Hamlet who is subtle, intelligent and flexible enough to accept, recognize, and negotiate vicissitudes, shocking and amazing though they appear. This happens most clearly in the iconic scene in Act V, when he comes to understand that the skull he holds in his hands belongs to a man he once loved and has kissed: "Alas, poor Yorick!" (V.i.183)

Returning to the Amlhodi's mill (a round millstone with an axis to turn on) monomyth in its many forms (the millstone generally falls off its axle, symbolizing the precession of the equinoxes, a cycle of 25,920 years), we learn that this story tells of "a catastrophe (that) cleans out the past" (De Santillana and Von Duchend 1977: 141). "What actually comes to an end is (not *the* world but) *a* world, in the sense of a world-age". (De Santillana and Von Duchend 1977: 141) (my emphasis). Through a source with a profound, cosmic and mythical background, Shakespeare could subtly allude not just to the sky and therefore to Bruno's heliocentrism, but also to the possibility of old world ages naturally falling away and new world ages naturally emerging. Bruno's notion of "vicissitudes", also connected to material nature and the cosmos, does not refute the idea that the circumstances we deal with on earth are materially connected to the universe.

In a circular fashion, I return to Yates' elusive idea of 1975, that "...the time for writing a book on 'Shakespeare and the Hermetic Tradition' (has not) come". Did she have similar Brunian "vicissitudes" in mind when she wrote those words?

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