

**MORTAL COIL**  
and  
**STARS WITH TRAINS OF FIRE**

*Hamlet* Q2 metaphors for the Copernican Astronomy and Kepler's Nova of 1604

by  
Abraham Samuel Shiff

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## 1. INTRODUCTION

Exploding cataclysmically to utter annihilation, a star that is normally too distant to be perceived by the naked eye will release a burst of visible energy to make it appear as a NEW STAR in the sky—a *Stella Nova*—in a place where none was previously seen. Shakespeare’s generation was startled by the appearance of two such extremely rare celestial events: Tycho’s Nova of 1572 and Kepler’s Nova of 1604.

A metaphor for Tycho’s Nova has been previously identified in *Hamlet*. This essay argues that in *Hamlet* Q2 there are two more heretofore-unrecognized astronomical puns: “Stars with Trains of Fire” for Kepler’s Nova, and “Mortal Coil” for the Copernican astronomy.

### Convention

Words in CAPITAL LETTERS are to be understood in their Aristotelian astronomical sense, as Shakespeare’s audience would have known them. They are defined in the essay.

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Acknowledgements:—It is fortunate when a student can learn under the guidance of a beneficial constellation of extraordinary teachers. The idea that *Mortal Coil* is a metaphor for the Copernican astronomy came to mind when studying the history of science at the Graduate Center of the City University of New York (CUNY) in courses taught by Distinguished Professor Joseph W. Dauben. This journey of discovery began as just a five-minute class presentation on the Elizabethan mathematician Thomas Digges that extended into years of research into the era’s science and literature. As my professor, and as executive officer of the Liberal Studies Program at the Graduate Center, I enjoyed Prof. Dauben’s constant encouragement as I explored to understand how and why Shakespeare could and would make a Copernican pun. As the research advanced he directed me to Professor Margaret L. King, who kindly accepted me as her student for independent study and supervised my master’s thesis on *Mortal Coil* for the History Department, Brooklyn College, CUNY (and continued to supervise a second master’s thesis on Shakespeare’s puns, *Polonius Identified*, for the Liberal Studies Program, Graduate Center, CUNY). When an advanced draft of *Mortal Coil* was ready, Prof. Dauben arranged for a critical review by Professor Martin Elsky, whose suggestions guided further research yielding new insights that are incorporated into this essay. My gratitude to my professors for their unflagging interest and support is here inadequately acknowledged. I also wish to thank my friend, Professor Ari Cohen, who is always available to read a draft; this paper is improved by his many critical suggestions. My gratitude also extends to those custodians of the archives of civilization for access to the rare books in their care—the research libraries and their staffs:—*British Library*;—*British Museum*;—*City University of New York, City College of New York, Archives & Special Collections*, Sydney Van Nort;—*Columbia University, Butler Library*;—*Folger Shakespeare Library*, Steven K. Galbraith and Georgianna Ziegler;—*Huntington Library*, Alan Jutzi;—*National Library of Scotland*, Anette I. Hagan;—*New York Public Library (1) Berg Collection*, Isaac Gewirtz (2) *Pforzheimer Collection* (3) *Rare Books Division*, Michael Inman, Jessica Pigza, and Ted Teodoro, (4) *Science, Industry and Business Library*;—*Pierpont Morgan Library*, Inge Dupont, Maria Isabel Molestina Triviño, Sylvie Merian, and Sandy Koppelman;—*University of Pennsylvania, Annenberg Library, Rare Book and Manuscript Library*, Nancy Shawcross;—*University of Oxford, Bodleian Libraries*—*Zentralbibliothek Zürich*, Alice Robinson. Lastly, any errors in this paper are solely the responsibility of the author.

## 2. MEMENTO MORI

The Great Orbe Carrying this Globe of Mortalitie - Digges 1576

When we have shuffled off this mortal coil - Shakespeare 1604

Shakespeare's audience believed that everlasting life and spiritual purity existed only in Heaven. Calamity, corruption, disease and death—mortality—comes to all who live on the EARTH.<sup>1</sup> In a soliloquy contemplating death, Elizabethans expected one of two commonplace metaphors: MORTAL WORLD OR MORTAL GLOBE. Instead, Shakespeare has Hamlet say: MORTAL 'coil'.

MORTAL WORLD and MORTAL GLOBE are 'memento mori'. For example [emphasis made **bold**]:

- In 1563, John Foxe published: "But there is no felicity or wealth in this **mortal world** so perfect, which is not darkened with some cloud of encumbrance and adversity..."<sup>2</sup>
- John Chamberlain penned in 1602: "Old Mistress Davers Master Doylies mother is dead and I was at her funeral where there was no mourning. The old Lady Fitzwilliams hath **left the world** likewise, with many other old women among whom there is come a kind of **mortality**...."<sup>3</sup>
- To explain the Copernican astronomy, Thomas Digges, in 1576, described the EARTH orbiting the Sun: "...this our **mortal world** or Globe of Elements which environed and enclosed in the Moon's Orb, and together with the whole **Globe of mortality** is carried yearly round about the Sun...."<sup>4</sup>

GLOBE, WORLD, MORTALITY, and STARS WITH TRAINS OF FIRE are to be comprehended as Shakespeare's audience understood them. With this as my premise, I pose several questions:

- Shakespeare, I will argue, punned on Copernicus to amuse the educated component of his audience—those famously characterized by Gabriel Harvey as the *Wiser Sort* who appreciated

*Hamlet* the most.<sup>5</sup> What did he expect the *Wiser Sort* to know about Aristotelian astronomy that could be cleverly manipulated so as to turn the word ‘coil’ into an astronomical metaphor?

- Why would a pun be made on Copernicus at the time *Hamlet Q2* was published?
- How does the substitution of ‘coil’ for WORLD or GLOBE become a pun?
- How does STARS WITH TRAINS OF FIRE serve as a metaphor for the Nova of 1604?
- Puns and metaphors are timely and only ‘work’ within a context, no different than the

effervescent one-line jokes told in monologues by comedians today.<sup>6</sup> What was the ‘context’ that Shakespeare exploited at the very end of 1604?

Before proposing answers it is first necessary to frame the Aristotelian ‘context’ within which the puns and metaphors become understandable. My arguments are prefaced with a brief but necessary review of Elizabethan cosmological terminology.<sup>7</sup>

### 3. COMPETING COSMOLOGIES

#### Sensation

When the *Stella Nova* suddenly flared in the sky, the astronomers were expected to explain the new phenomenon. In a 2004-symposium to celebrate the quatercentenary of its appearance, W. Shea discussed Galileo's lecture notes about the event [emphasis made **bold**]:

Galileo did not hear about the supernova for several days, and his first recorded observation is dated 28 October [1604—it was first seen in Padua on the 10<sup>th</sup>, when it became obscured by bad weather]. **By then the news had become a sensation**, and everyone wanted to know what the professor of Astronomy at the University of Padua had to say about it. Galileo held that position since 1592, but this was the first time in twelve years that he was called upon to give a public lecture. The subject was so hot that he gave not one but three lectures....<sup>8</sup>

The attitude in London would be no different because human nature and curiosity is constant. In the debates about the NEW STAR, different cosmological theories would be argued—it is hard to conceive otherwise. Essentially, there were two: the Aristotelian and the Copernican.<sup>9</sup> Shakespeare would have observed the reaction of the crowds to the NEW STAR, the expressions of wonderment, the discussions and debates among the *Wiser Sort*, and would recognize an audience 'primed' by this current event for a pun. But what did the Elizabethans know about the two cosmologies? I begin with Aristotle.

#### Aristotle

Shakespeare and his audience knew that mankind is at the center of Creation. The rules for understanding and predicting the whirling motions of the STARS around a stationary EARTH were long established by the ancient Greeks. The cosmological verity was that of Aristotle, enhanced by Ptolemy, as perceived through the lens of Christian interpretation of the Old Testament.

## WORLD

The infinite universe is comprised of Heaven, the abode of God and the angels. The WORLD is embedded in Heaven consequential to God's creative act described in the Bible. It is composed of nested transparent spheres; the sphere being the perfect geometric form.

The outermost sphere abuts Heaven and is named the PRIME MOVER. Its purpose is to drive the motions of the inner spheres.

The next sphere inwards holds the FIXED STARS. "Fixed" because the relative position of any STAR to any other never changes, no matter from what vantage point on EARTH they are viewed. The astronomers reasoned: the absence of parallax must mean that they are at an immense distance from mankind. Because of its vast remoteness, the PRIME MOVER must spin the sphere at an astonishingly rapid rate to move the FIXED STARS across the night sky. The brightest STARS were identified and individually named since antiquity, and for ready reference grouped into CONSTELLATIONS.

Continuing inward, there are seven STARS with independent movement, each attached to a sphere of its own. Termed PLANETS, they constantly change location in the sky in respect to one another and to the FIXED STARS. From the outermost to the innermost, they are: Saturn, Jupiter, Mars, Sol the Sun (the middle PLANET), Venus, Mercury and Luna the Moon.

The changing positions of the PLANETS (moving STARS) relative to the FIXED STARS are astrologically significant. Astronomers plotted their positions to compile reference tables from which would be calculated past and future configurations for any date and time. Astrologers knew the configurations of past celestial events that effected mankind with war, pestilence, and the death of monarchs. When the same starry patterns occur in the future, then, logically, the

same catastrophes will come about. Horoscopes (forecasts) for an individual's fate are based upon the celestial permutation of the STARS at the date and time of the person's birth.

#### GLOBE

The GLOBE is the centermost component of the WORLD. It is everything found encompassed within the Luna sphere, and is itself composed of four spheres, each of a different ELEMENT, arranged by density—FIRE, AIR, WATER and EARTH. Abutting the Luna sphere is the lightest ELEMENT—FIRE. Next inward is denser—AIR. Further inward is yet denser—WATER. And finally, jammed together into a ball in the very center is the densest ELEMENT of all—EARTH.

The EARTH is a lumpy sphere, insignificant in size when compared to dimensions of the WORLD. People inhabit those portions that jut above the WATER. Tides will shift the WATER. Winds will cause AIR to be turbulent and move the clouds. In contrast, the EARTH is forever immobile, fixed in place as the center of the GLOBE, the WORLD, and Creation.

#### MORTALITY

Upon death the soul leaves the GLOBE and transits the WORLD to reach Heaven.<sup>10</sup>

#### Imagery

Shakespeare's audience believed in the Aristotelian cosmology. This was their prejudice (pre-judgment), and what their minds expected when at the theater or reading a play.

The mathematician and printer Peter Apian (1495-1552) published *Cosmographia* in 1524, a popular summary of the Aristotelian cosmology that saw many editions and translations. His woodcut of the medieval illustration for the cosmos is often reproduced.<sup>11</sup> See Figure 1. The WORLD'S spheres are numbered from '1' for Luna, to '10' for the PRIME MOVER. The sphere of the GLOBE is numbered '0' (zero), being in the absolute center of Creation, and is itself composed of four spheres. The outermost GLOBAL sphere is FIRE, represented by flames, below

which clouds float in the AIRY ELEMENT, and further inward is the combined representation of the ELEMENTS WATER covering some but not all of the EARTH. Shakespeare and his audience conceptualized the cosmos by this imagery. King James studied Apian's *Cosmographia*.<sup>12</sup>

Figure 1: Apian's Aristotelian Cosmology  
 By permission of the Pierpont Morgan Library, New York, PML 37542





## COMETS

Not everything in the sky is predictable as are the FIXED STARS and PLANETS. The Aristotelian cosmology also needed to account for COMETS, the transient phenomena that appear unexpectedly. They are not infrequent; twelve were observed in Europe between the NEW STARS of 1572 and 1604.<sup>13</sup> Aristotelian theory placed COMETS within the Luna sphere (under the moon), inside the GLOBE, in the ELEMENT of AIR,<sup>14</sup> and considered them to be special STARS, named BLAZING STARS (more about this below).

Astrologically significant, popular superstition believed COMETS to be prognosticators of calamity. However, they could also be interpreted as signifiers of extraordinary fortunate, auspicious and awesome events. An example of how Shakespeare's audience understood them is preserved in Ben Jonson's account of the pageantry that accompanied the coronation of James VI of Scotland as James I of England, in a 1604 publication replete with learned Latin and Greek footnotes.<sup>15</sup>

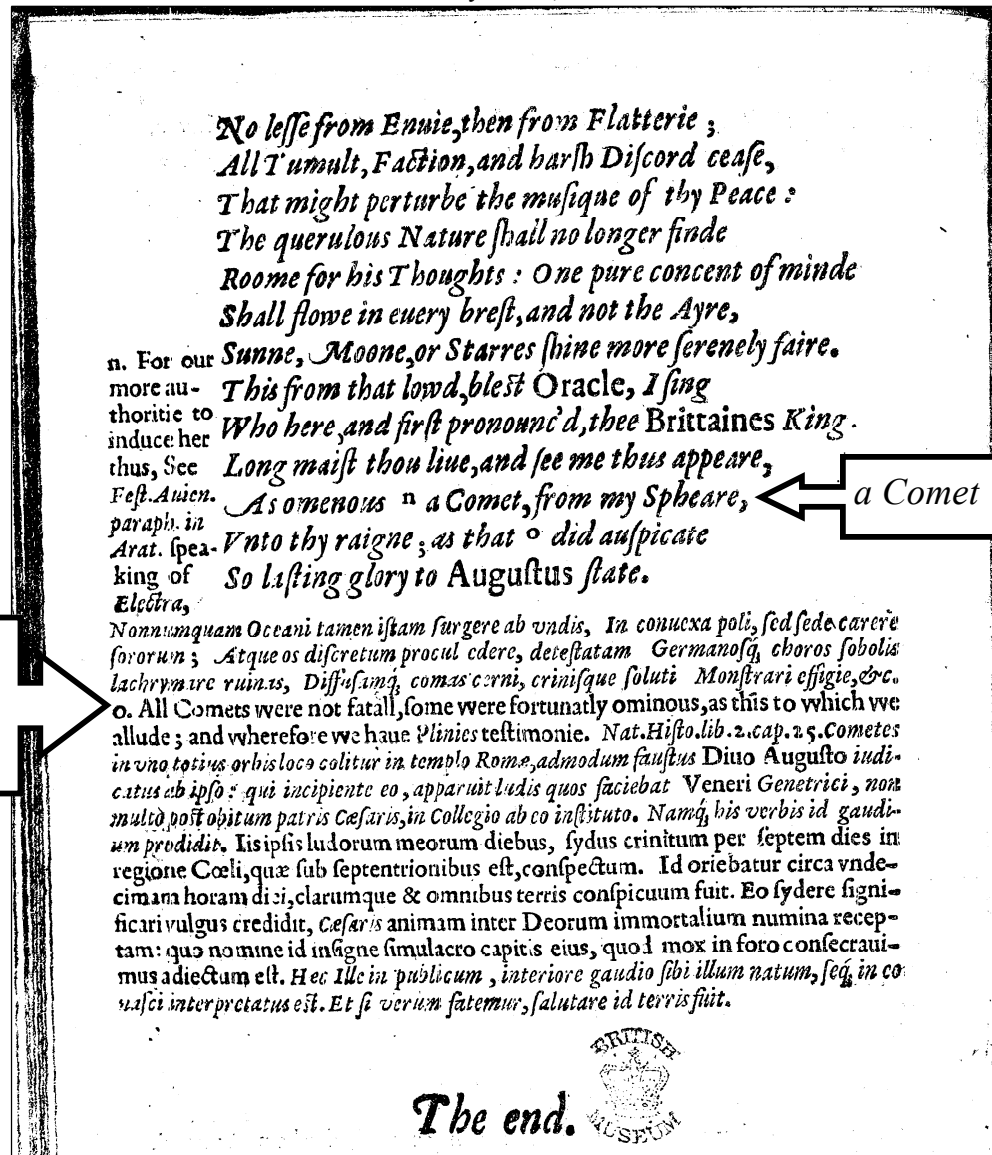
Seven triumphant arches were erected in London to honor James in 1603, through which the king passed on the way to his coronation ceremony. At each arch the gala procession halted to listen to speeches, music and poems of praise.<sup>16</sup>

At the last display the welcoming oration was by a woman. Jonson explains [emphasis made **bold**]: “We ventred [ventured] to follow this authoritie [Ovid]; and made her the speaker: presenting her **hanging in the ayre, in the figure of a Comet....**” The orator flatters James by measuring the glory of his majesty against the celestial bodies: “... *and not the Air, Sun, Moon, or Stars shine more serenely fair....*” The last line of this the last oration—the finale of the procession—explains the comet-motif to the king. It represents the auspicious COMET that appeared in the reign of Augustus that signified the divinity of Julius Caesar. The arch's

thematic purpose is revealed to declare James equal to the great Roman Emperor. The orator-as-comet exclaims: “*Long may thou live, and see me thus appear, As ominous a Comet, from my Sphere, Unto thy reign; as that did auspicate so lasting a glory to Augustus state.*” In footnote ‘o’ Jonson expounds on and justifies the use of the COMET motif, and carefully reassures the reader that: “All Comets were not fatal, some were fortunately ominous [portentous]....” See Figure 2.<sup>17</sup>

Figure 2: Ben Jonson’s Aristotelian Comet.

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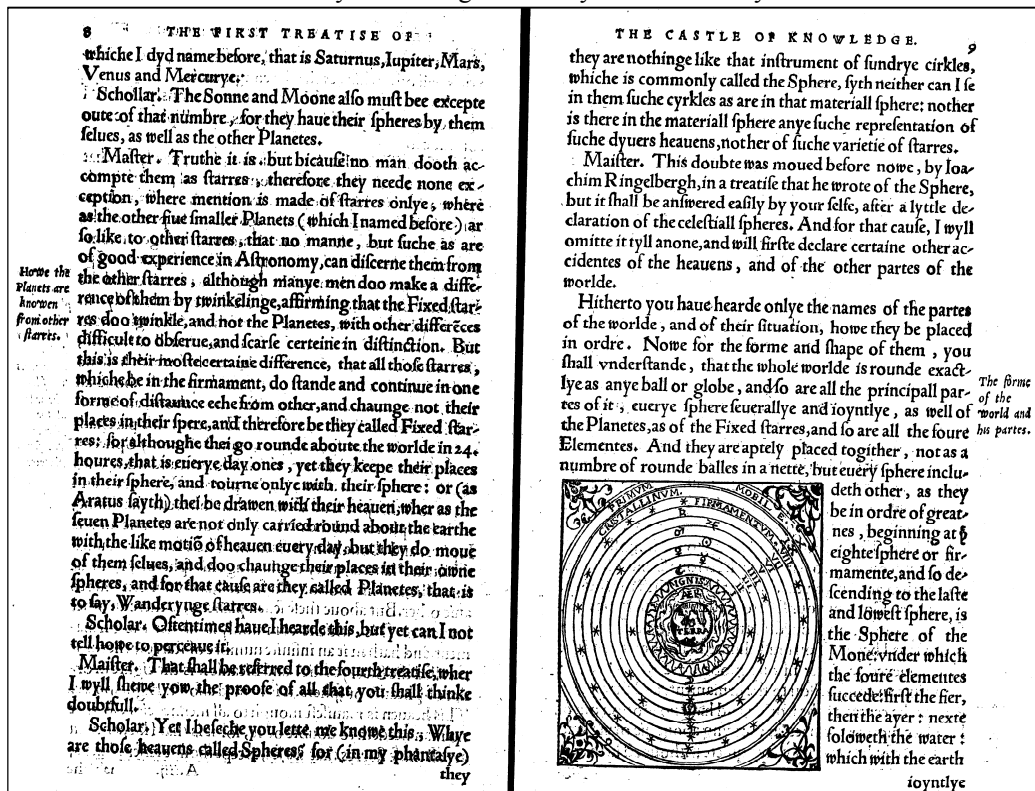


## SPIRAL

Another Aristotelian term familiar to the Elizabethans is the SPIRAL. Understanding the SPIRAL is the key to deciphering the pun on Copernicus.

Two years before Elizabeth ascended the throne, Robert Record (1510?-1558), in 1556, published *The Castle of Knowledge*, reprinted in 1596. Record claims that it is the first Aristotelian astronomical work published in English. Whenever he quotes an authority in Greek or Latin the text is translated—clearly, the intended audience is those literate in English but not competent in the classical languages. The presentation is in the format of a Master teaching his student, the Scholar. The theories and arguments are pure Aristotelian. For example, the standard medieval imagery for the cosmos illustrates the Master's introductory lesson in the *First Treatise*. See Figure 3.<sup>18</sup>

Figure 3: Robert Record's Aristotelian Cosmology  
Henry E. Huntington Library and Art Gallery



SPIRAL is discussed in the *Fourth Treatise*, where the Master explains why the days have more sunlight in summer than in winter. The seasonal change occurs because the PLANET Sol, the Sun, orbits the GLOBE in a SPIRALING circle, sometimes above the horizon, other times dipping below. The long, technical explanation is reproduced in part in Figure 4.<sup>19</sup>

Figure 4: Robert Record explains the SPIRAL  
Henry E. Huntington Library and Art Gallery

les be concurrent, yet the principall cause is the obliquitie of the Horizont. And althoughe I haue twyse before made mention of those daies, yet doth there rest more to be sayd of them. for in bothe places before I dyd briefly touche the causes of diuersitie of suche Artificialle daies in diuers climates, and in the table of the distinction of climates, I dyd sette forth the quantitie of the longest daye in eche of them: and nowe will I shew you somewhat of the reason of their inequalitye in anye one climate. Fyrst therefore to begin withal, you knowe that before the sonne in his naturall course can passe the full of one degre, he is caried by the violence of the Starrye skye rounde aboute the earthe. so that in going betweene the firste degre of Capricorne, and the fyrste of Cancer, he dooth consume halfe a yeare, and therefore maketh aboute 12 reuolutions lyke spirall circles, which are diuerslye parted by the Horizont, accordyng to the diuersities of the eleuation of the Pole. As in the Ryght sphere they are all parted by the Horizont into two equall partes: so

spirall  
circles

The mechanics of the Sun and other PLANETS circling the immobile GLOBE while SPIRALING was an important concept in the Aristotelian cosmology. In making the Copernican pun Shakespeare relies on the *Wiser Sort* having prior knowledge of the SPIRAL.

### Copernicus

Just twelve years before Shakespeare was born and a scant six decades before *Hamlet Q2* went to print, Nicholas Copernicus's (1473-1543) *De revolutionibus orbium coelestium* was published in 1543. It promoted the idea that the Sun is at the center of the WORLD. The GLOBE spins on its axis, and was just another PLANET in orbit around the Sun.<sup>20</sup>

Shakespeare was age twelve when the first English language explanation of the Copernican theory was printed in London. Thomas Digges (1546-1595), a noted mathematician and astronomer, republished in 1576 his father's Aristotelian astronomical and astrological tract to which he added an appendix to explain the Copernican theory. The preamble, *To The Reader*, identifies the intended audience to be the *Wiser Sort*—...*such noble English minds (as delight to reach above the baser sorts of men)*...—and uses the commonplace metaphors MORTAL WORLD and MORTAL GLOBE. See Figure 5.<sup>21</sup>

To illustrate the Copernican-relationship of the GLOBE to the Sun, Digges also included a diagram containing Aristotelian graphic symbols that the Elizabethans expected to see in a chart of the cosmos. The GLOBE is identified as this GLOBE OF MORTALITY. See Figure 6.<sup>22</sup>

The next Copernican-conceptual advancement occurred just four years before *Hamlet Q2* was published and the *Stella Nova* appeared in the sky. In 1600, William Gilbert (1544-1603) published *De magnete*.

Educated at Cambridge where he was awarded B.A., M.A. and M.D. degrees, Gilbert was appointed physician to Queen Elizabeth. The royal assignment was continued when James ascended to the English throne. He was an eminent personality in Shakespeare's London.<sup>23</sup>

*De magnete* reports on the results of twenty years experimental research into magnetism, defends Copernicus, and explains the mechanism that drives the GLOBE to spin on its axis; a conclusion

... obtained from sure experiments and demonstrated arguments than from probable conjectures and the opinions of philosophical speculators of the common sort....<sup>24</sup>

The entire EARTH is a lodestone, a magnet. The observed motion of the FIXED STARS<sup>25</sup> is just an

Figure 5: Thomas Digge's 1576 MORTAL GLOBE and MORTAL WORLD  
Henry E. Huntington Library and Art Gallery

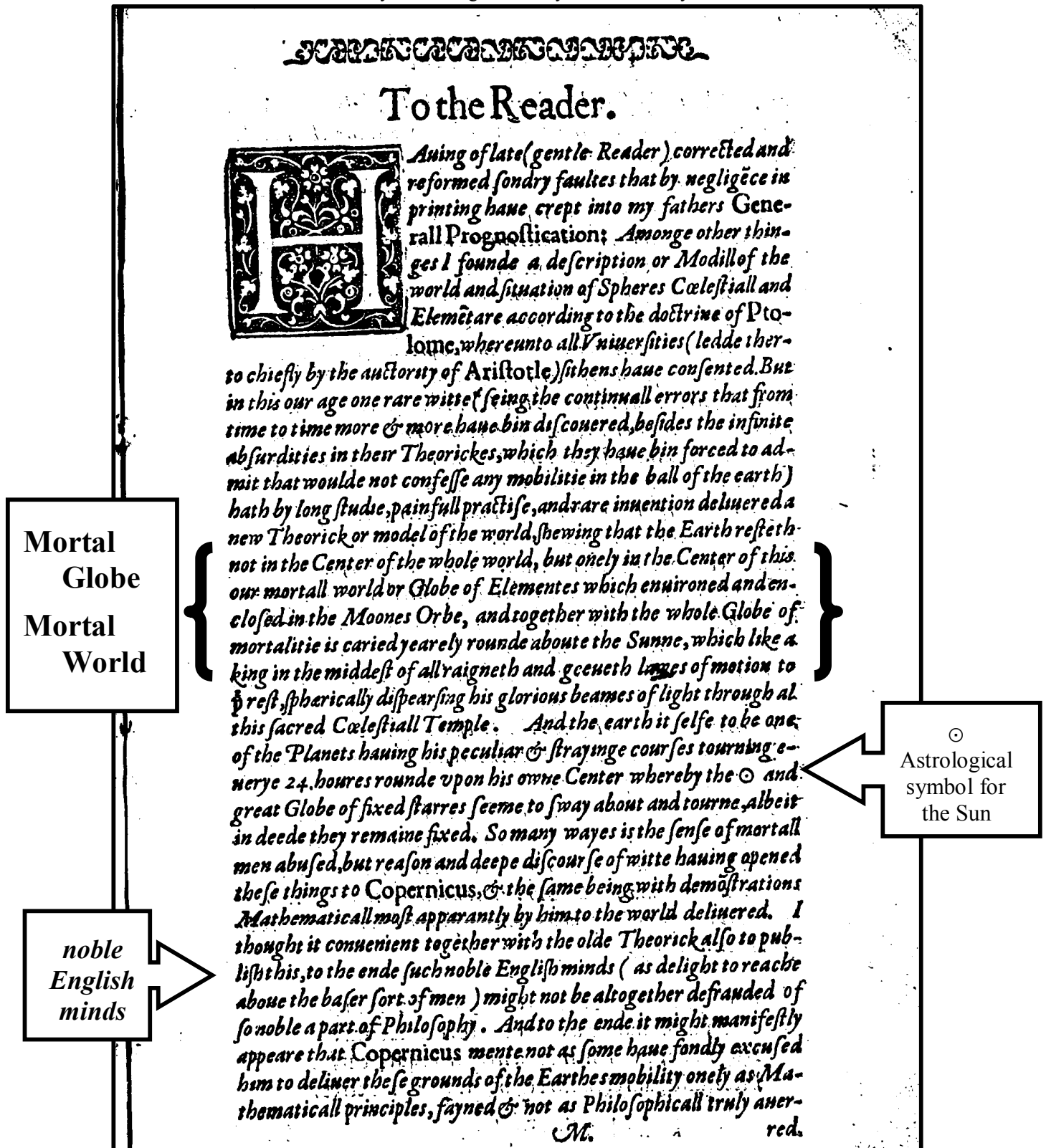
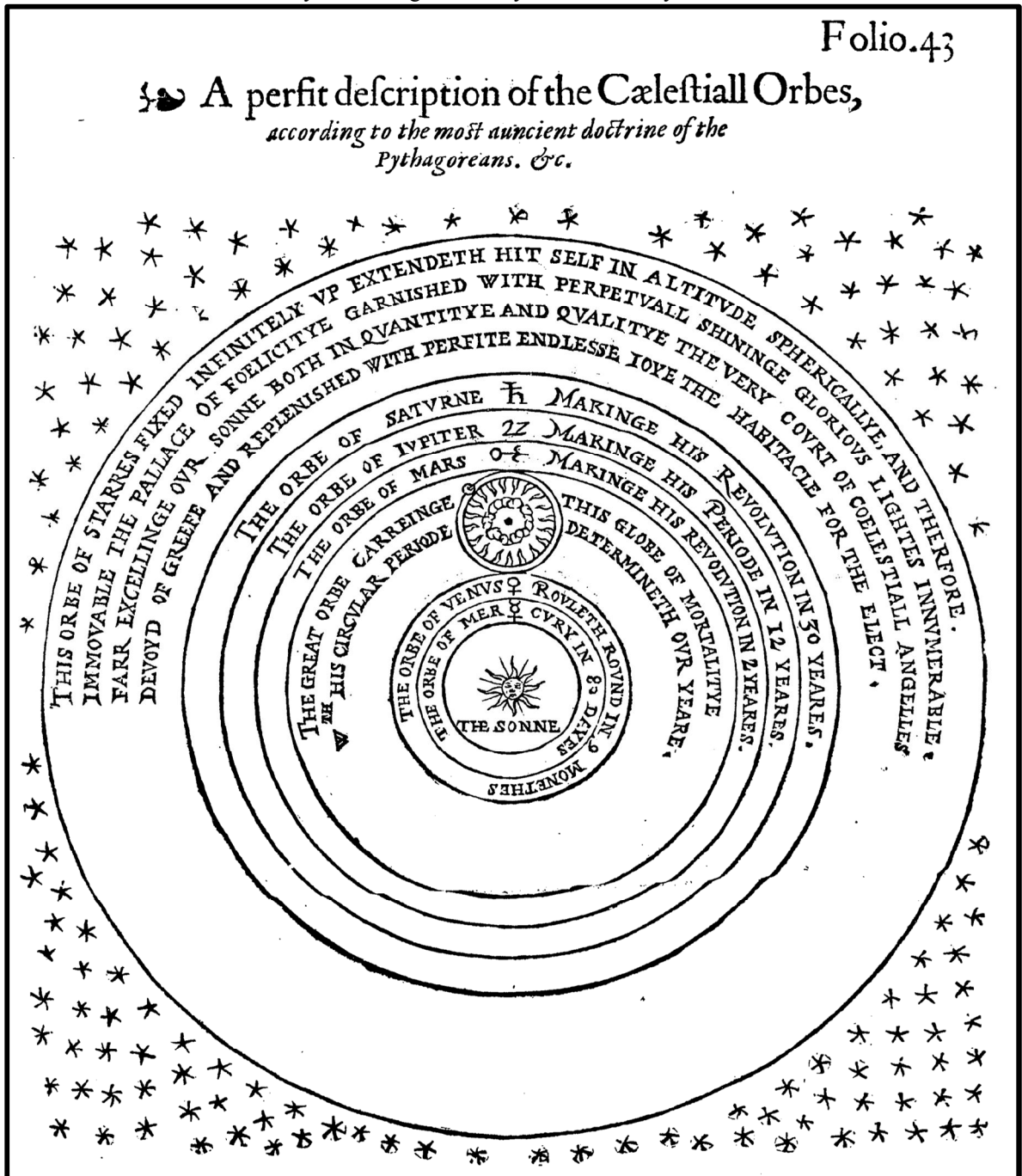


Figure 6: Thomas Digges's 1576 Copernican Chart  
 Henry E. Huntington Library and Art Gallery



Note that the sphere carrying the GLOBE around the Sun is described with the phrase: “THE GREAT ORBE CARREINGE THIS GLOBE OF MORTALITYE.” The imagery is pure Aristotelian. In the GLOBE, the central dot represents the tiny ball of the ELEMENTS EARTH and WATER, surrounded by the ELEMENT of AIR as indicated by clouds, in turn encompassed by the ELEMENT of FIRE depicted by flames, all contained within the precincts demarked by the sphere of Luna the Moon.

illusion caused by the GLOBE rotating under the impulse of the EARTH'S own magnetic emanations.<sup>26</sup>

A modern English translation of *De magnete* reports: "Gilbert's book created a powerful impression at the time, especially among the learned in other parts of Europe," and gives the example of Johannes Kepler (1571-1630) adopting the theory into his own cosmological model.<sup>27</sup> Although Gilbert published in Latin his theory was famously known in Shakespeare's London. In 1603, Sir Christopher Heydon (1561-1623) quoted from *De magnete* in support of an argument and offered this commendatory opinion:

...But a more lively example hereof we cannot have, then that which *M.D. Gilbert* giveth out of his most learned and Philosophical observations in his never sufficiently commended work of the Loadstone, where he teacheth us for an approved truth in his own experience;...<sup>28</sup>

More about Gilbert's experimental approach will be mentioned below in its proper place.

With the competing Aristotelian and Copernican cosmologies now in mind, we turn to consider the attitude of Shakespeare's educated audience to the Copernican theory.



#### 4. WISER SORT

In 1604 Shakespeare was famed as a poet and playwright. James selected his troop of actors to be the King's own, favoring them with royal protection. He was positioned to monitor the topics that interested James himself, the royal court, the educated circle around it, as well as the London population in general—the various audiences he needed to entertain and please.

Shakespeare would have been knowledgeable about the competing cosmological theories, and most important for the construction of the pun, also aware that the overwhelming majority of his audience rejected the Copernican theory, for two reasons:

- It was heresy.
- But even more damning, just plain common sense and everyday experience made the idea of a moving and rotating GLOBE unbelievable.

After all, *Contemplative Reader*, sitting in your chair and considering this essay, do you perceive *yourself* spinning and careening through the cosmos? Examples will demonstrate that this conviction was held by the *Wiser Sort*.

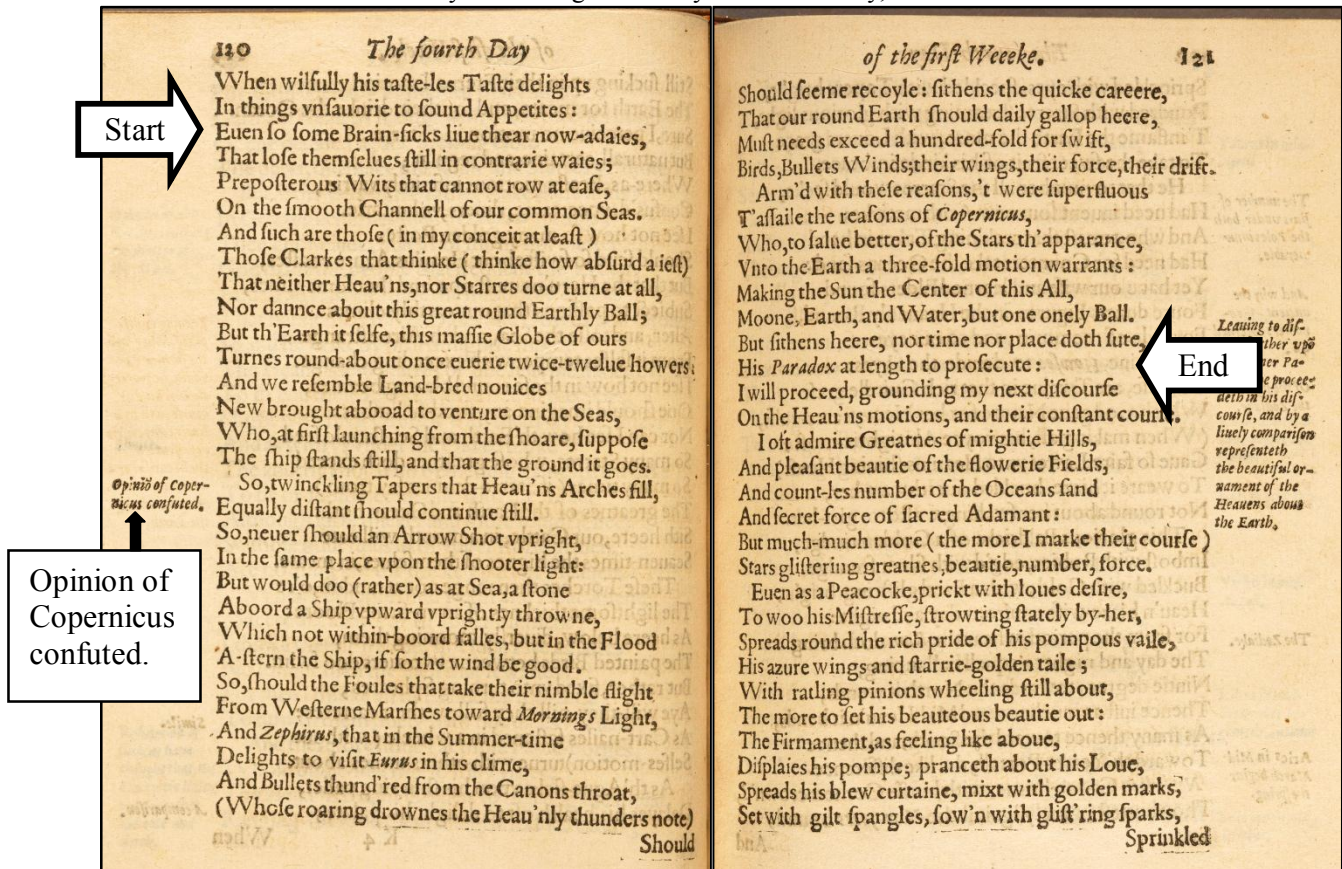
Joshua Sylvester

In 1605, Joshua Sylvester (1563-1618), the court poet to Henry, Prince of Wales (1594-1612), published a complete English translation of DuBartas's *The Divine Weeks*.

DuBartas (Guillaume de Salluste, Lord of Bartas, 1544-1590), a poet and scholar in the service of King Henry of Navarre (later King of France) and his diplomat to the court of Scotland and a favorite of James, published in 1578 his famously known and widely translated epic poem, *The Divine Weeks*, which describes the biblical creation of the WORLD. In Scotland, James translated part of the poem into English, and as a reciprocal gesture, DuBartas translated into French James's poem on the naval battle of Lepanto.<sup>29</sup>

In the *Divine Weeks* DuBartas declares those scholars (“clerks”) who accept the Copernican astronomy to be insane (“brain-sick”), alludes to the Aristotelian arguments against the theory, and concludes by dismissing it as nothing more than a “paradox” and a “jest.” See Figure 7.<sup>30</sup>

Figure 7: Du Bartas Mocks the Copernican Theory; Sylvester’s Translation  
Henry E. Huntington Library and Art Gallery, call no. 69230



James Howell

James Howell (1594?-1666), university educated and a clerk on the staff of the Privy Council, published his letters written home to England.

In ‘Letter 4’ to his brother, he mockingly uses the Copernican astronomy as a metaphor for the sea sickness and vertigo experienced while crossing the English Channel; while in ‘Letter 33’

to a friend, he uses the verity of the PRIME MOVER as his standard for the fastest possible speed [emphasis made **bold**]:<sup>31</sup>

- Letter IIII. To my Brother....

Brother,

I am newly landed at *Amsterdam*, and it is the first forren Earth I ever set foot upon. I was pitifully sick all the Voyage, for the Weather was rough, and the wind untoward ... we were surprised by a furious Tempest, so that the Ship was like to split ... **Having bin rocked and shaken at Sea; when I came ashore I began to incline to Copernicus his opinion**, which hath got such a sway lately in the World, viz. **That the Earth as well as the rest of her fellow Elements** [Howell is referring to the GLOBE OF FIRE, AIR, WATER and EARTH], **is in perpetuall motion, for she seem'd so to me a good while after I landed....**

- Letter XXXIII. To Dan. Caldwell, Esq; from Venice.

My dear D.

Could *Letters* flie with same Wings as *Love*, and cut the Ayr with the like swiftness of motion ... and partakes in celerity with the imagination then which ther [there] is **not any thing more swift you know**, ... **the motion of the upper sphere, the premium mobile**, which snatcheth all the other nine [spheres] after it, and indeed the whole Macrocosin, all the world besides, **except our Earth; (the Center) which upper sphere [the PRIME MOBILE] the Astronomers would have to move so many degrees** [of longitude], **so many thousand miles in a moment**; since then Letters are denied such velocity, I allow this mine twenty dayes, which is the ordinary time allow'd twixt *Venice* and *London*, to com unto you,...

#### John Donne

John Donne (1572-1631), dean of St. Pauls Cathedral and preacher to King James, suffered ever increasing and debilitating recurrent illnesses. Surviving an episode to which everyone believed he must succumb, Donne was inspired to write a religious prose work known as *Devotions upon Emergent Occasions*. Although Aristotelian imagery is used throughout, there is one allusion to the Copernican theory.

## 21. Meditation.

...I am *up*, & I seeme to *stand*, and I goe *round*;  
 And I am a new *Argument* of the *new Philosophy*,  
 that the *earth* moues round;  
 Why may I not beleeeve,  
 that the *whole earth* moues in a *round motion*,  
 though that seeme to mee to *stand*,  
 when as I seeme to *stand* to my *company*,  
 and yet am carried, in a giddy, and *circular motion*, as I *stand*?...<sup>32</sup>

Donne reasons in this beautiful metaphor: Having stood-up, he knows with certainty that he is standing still. The group of people around him, “my *company*,” witness that he stands still. Yet his senses tell him he is spinning. Why should he perceive vertigo? Obviously, he is ill and is *deceived* by his senses that he is experiencing a rotating movement. Likewise, by extension of that logic, when he is well and perceives himself to stand still, could it be possible his senses continue to deceive him in a different way, by concealing the motion of the GLOBE if it actually spins on its axis and orbits the Sun? Donne expected his coterie of readers at court to comprehend the mocking allusion to the Copernican “*new Philosophy*,” and to the commonly held expectation that if the GLOBE does move then the motion must be perceivable, because the senses do not deceive when a person is in good health.

## John Davies

Dance was an important entertainment at Elizabeth’s court.<sup>33</sup> On celebratory occasions the senior officers of the Inns of Court (law schools) would sponsor feasts to which the monarch was invited. The students would stage elaborate dances for her entertainment.<sup>34</sup>

A law student, John Davies (1569-1626), in 1594, wrote an exquisite poem to praise Queen Elizabeth, entitled *From Orchestra or A Poem of Dancing*. Comprised of 131 stanzas, it is replete with Aristotelian imagery. Two stanzas allude to the Copernican theory, but with affirmation that

the Aristotelian cosmology is correct [the Copernican metaphors are made **bold**, the Aristotelian verities are underlined]:<sup>35</sup>

Stanza 34

'Behold the world, **how it is whirled around!**  
 And for it is so **whirled**, is named so;  
 In whose large volume many rules are found  
 Of this **new art**, which it doth fairly show.  
 For your quick eyes in wandering to and fro,  
 From east to west, on no one thing can glance,  
 But if you mark it well **it seems to dance**.

Stanza 51

'Only the Earth doth stand forever still:  
Her rocks move not, nor her mountains meet,  
**Although some wits enriched with learning's skill**  
**Say heaven stands firm and that the Earth doth fleet,**  
**And swiftly turneth underneath their feet;**  
Yet though the Earth is ever steadfast seen,  
 On her broad breast hath dancing ever been.

Davies's allusions would have been immediately understood by his targeted audience: Elizabeth, the royal court, and those who were in its orbit. Of them, John Upton (1707-1760) made the telling parenthetical comment when comparing the writing talents of Philip Sydney (1554-1586) with Shakespeare [emphasis made **bold**]: "Sir Philip Sydney, who was a **scholar (as noblemen were** in queen Elizabeth's reign)...."<sup>36</sup>

The law students avidly attended the playhouses. Davies wrote an epigram in honor of Shakespeare, and is presumed to have known him.<sup>37</sup> The law students and the nobility at court were constituents of the educated *Wiser Sort* for whom Shakespeare would craft the pun.

Richard Edlyn

A half-century after *Hamlet* Q2, Richard Edlyn (1631-1677) published a defense of astrology in 1659 that was reprinted in 1668. Described on the title page as a "Student in the Mathematical and Physical Sciences," Edlyn is a believer in astrological prognostication and

argues the reality of the predictable influence of the STARS on the affairs of mankind. But he also is an astronomer who studies the sky through a telescope and an adherent of Copernicus.

The main section of his book is devoted to astrology. In an addendum the Copernican theory is promoted and defended. Edlyn explains the reason for the persistence of belief in the Aristotelian cosmology [emphasis made **bold**]:

But there **do not want of those who will think** [that is, there is no lack of persons who still believe], yea, and affirm the Earth [being in] motion about its own Axis [as] too rapid and swift, for that it supposeth the whole circumference of the Earth to be moved about in 24 hours, which is (according to the ordinary dimension, a mile to a degree) every hour 900 miles, every minute 15 miles, every second (which almost equals the beating of a pulse) a quarter mile, now say they [‘they’ being those who refuse to believe in the Copernican theory], **if this swift motion should be granted, it could not be but we should perceive it**, and besides it seems impossible such a dull heavy body [referring to the EARTH’s massivity] should have such a swift motion.<sup>38</sup>

When Edlyn publishes the sky has been examined with telescopes for fifty years, yet the popular perception persists that it is impossible for the EARTH to rotate, because a spinning motion would be perceivable.

#### Francis Bacon

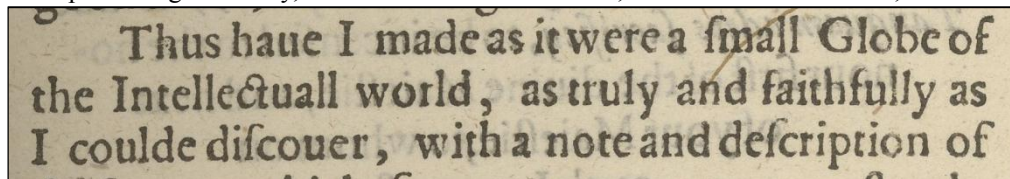
Francis Bacon (1561-1626) documents what the *Wiser Sort* understand about Copernicus precisely when Shakespeare composes *Hamlet* Q2 by publishing in 1605 an analysis of the competing cosmological theories in *The Two Books of Francis Bacon, Of the proficience and advancement of Learning, divine and human*.<sup>39</sup>

This work categorizes the full range of human knowledge from antiquity to modern times (that is, Bacon’s era), where different ideas and philosophies are alluded to by single words, perhaps a sentence or two, or by metaphor. It is not an instructional text, as the reader is expected to be educated to the highest standards of the day with foreknowledge of the topics discussed. The *First Book* extolls the excellence of learning and knowledge. The *Second Book* argues what has

been achieved by 1605 for the advancement of learning, and identifies deficiencies necessary to be overcome to continue advancing knowledge into the future.<sup>40</sup> Bacon's purpose is to promote the scientific study of nature. In this context he discusses the Copernican theory, refers to Gilbert, and attacks the Aristotelian cosmology and its SPIRAL.

A man of his time, Bacon communicates using contemporary commonplace figures of speech. For example, in the *Second Book's* last paragraph, while summarizing the work's ambitious scope, he uses GLOBE and WORLD to imply the universe of knowledge. See Figure 8.

Figure 8: Bacon's Metaphoric use of GLOBE and WORLD<sup>41</sup>  
The Pierpont Morgan Library, New York. PML 37259. Gift; Mr. Roland L. Redmond; March 1942.



Dedicated to James, *Advancement of Learning* is a display of Bacon's erudition. It is also a flattery of the king because it assumes of James the intelligence and intellectual ability to follow the book's arguments. And indeed, James is fully competent to do so because of the rigorous education he received when a child to prepare him to be a monarch. As for knowledge of astronomy, when in Denmark he spent a full day at Tycho's observatory, giving him the advantage of discussing cosmological theories with the era's greatest astronomer.<sup>42</sup>

Copernicus is introduced in a discussion that begins in *The Second Book* on leaf 34<sup>V</sup> and continues onto 35<sup>R</sup>. See Figure 9 for the quotation in context.<sup>43</sup> Bacon writes:

...For as the same *Phenomena* in Astronomy are satisfied by the received Astronomy of the diurnal Motion, and the proper Motions of the Planets with their *Eccentrics* and *Epicycles* and likewise by the Theory of Copernicus, who supposed the Earth to move, & the Calculations are indifferently agreeable to both: So the ordinary face and view of experiences is many times satisfied by several Theories and Philosophies, whereas to find the real truth requires another manner of severity & attention...

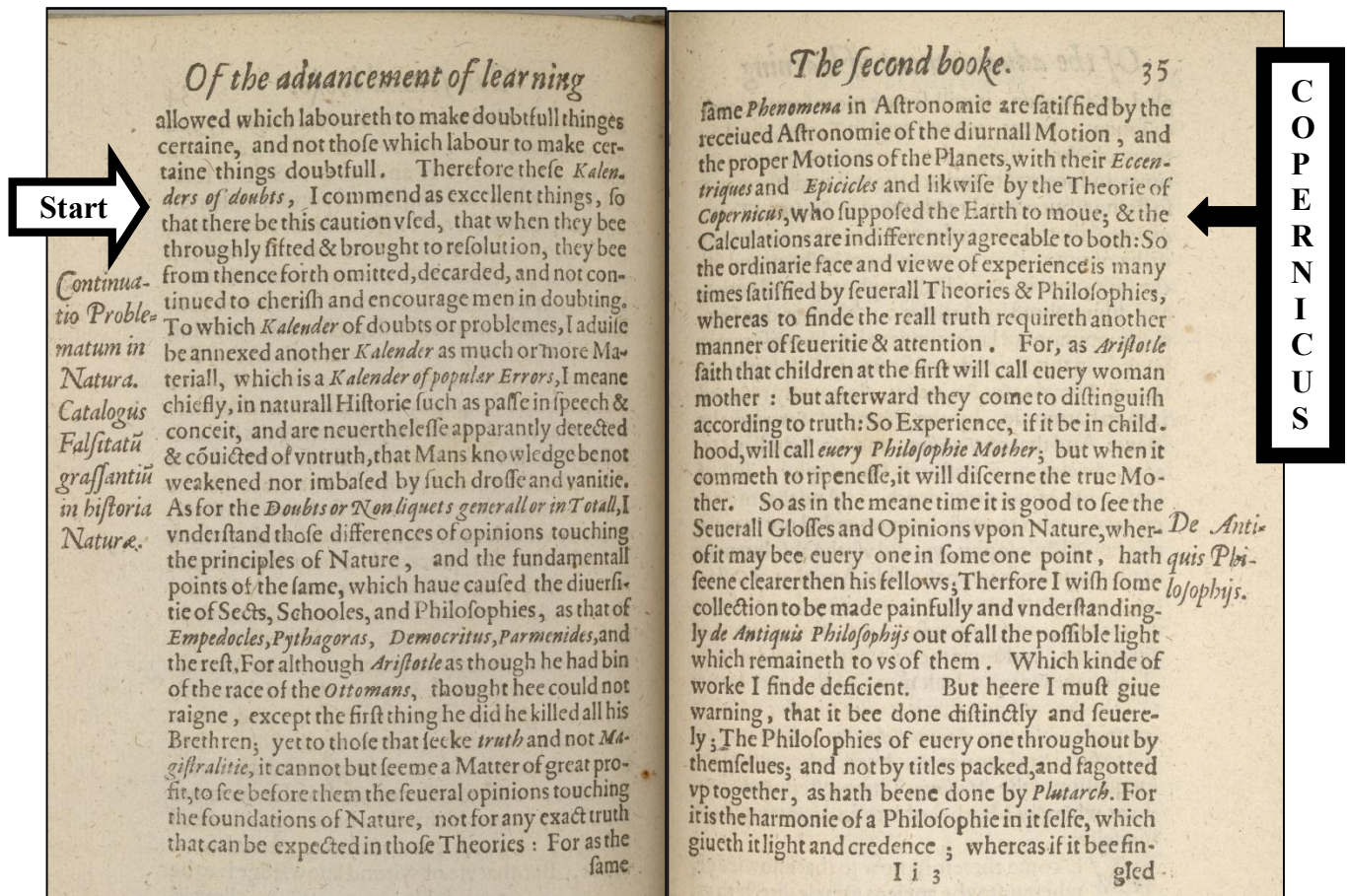
Modernizing Bacon's terminology:

- The *Phenomena* refers to the tables of observations accumulated by the astronomers since ancient times recording the movements of the PLANETS and FIXED STARS from which may be calculated the future positions of the heavenly bodies.
- In 1605 there are two theories:<sup>44</sup> (1) *the received Astronomy of diurnal Motion, and the proper Motions of the Planets with their Eccentrics and Epicycles*—the Aristotelian, where everything rotates daily around the stationary EARTH in perfect spheres requiring, as Bacon deliberately stresses, ECCENTRIC and EPICYCLICAL adjustments (explained below). (2) *the Theory of Copernicus, who supposed the Earth to move*—the Copernican, that argues the EARTH spins and orbits a stationary Sun.
- *& the Calculations are indifferently agreeable to both*—when the astronomers do the mathematical computations to compute PLANETARY positions according to both theories, equivalent results are obtained .
- *So the ordinary face and view of experiences is many times satisfied by several Theories and Philosophies*—the evidence obtained by observing the celestial positions and compiling the tables of observations is insufficient to decide which of the competing cosmologies is true.
- *Whereas to find the real truth requires another manner of severity & attention*—to discover which of the theories is correct will require another kind of studious analysis, something other than what the astronomers have done in the past and are currently doing because those methodologies are inadequate.



Figure 9: Bacon's Aristotelian and Copernican Theories

The Pierpont Morgan Library, New York. PML 37259. Gift; Mr. Roland L. Redmond; March 1942.

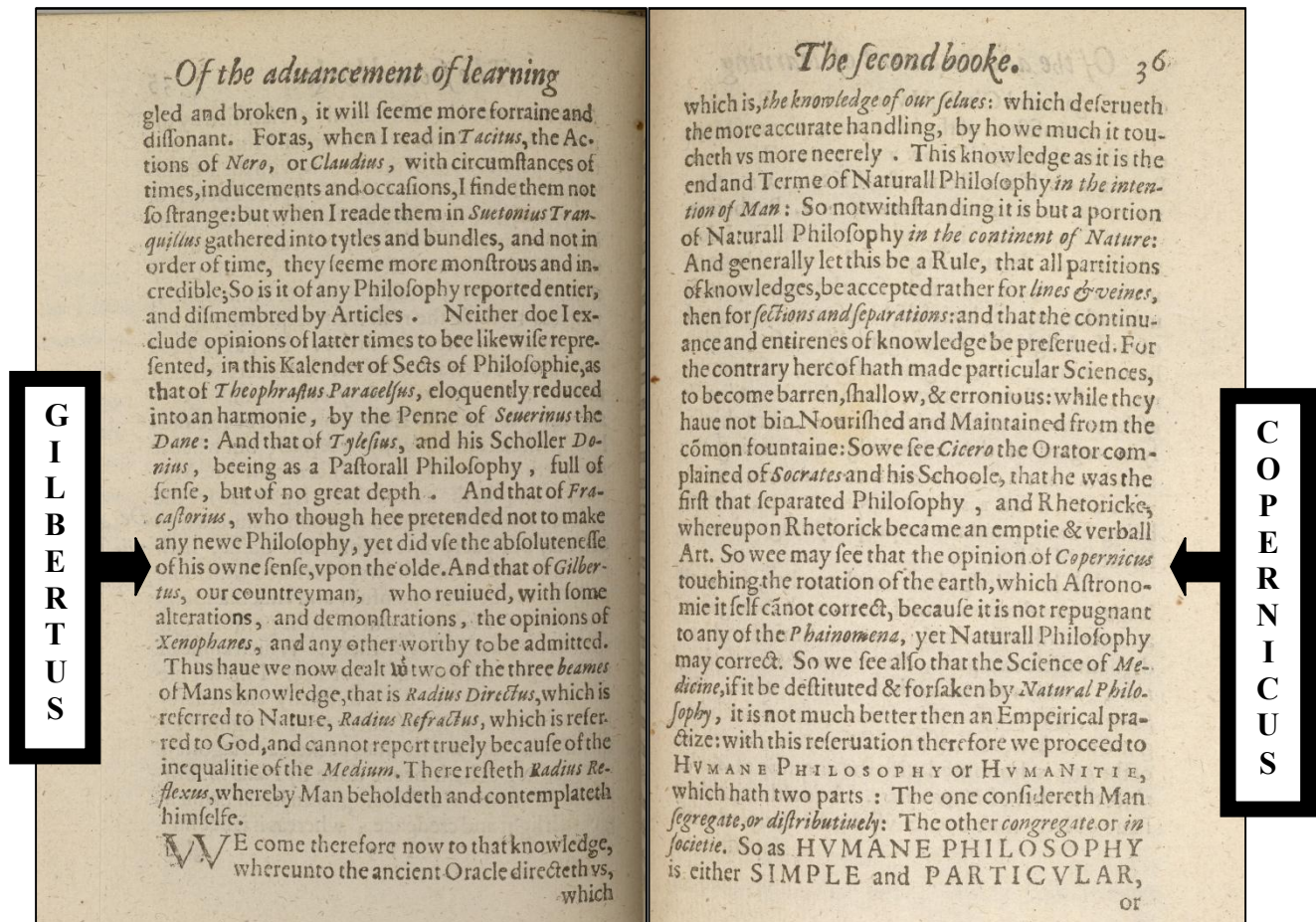
Leaf 34<sup>V</sup>Leaf 35<sup>R</sup>

Since antiquity, Bacon argues, the Aristotelians have suppressed all other schools of thought without justification. In this context he introduces William Gilbert in half of a sentence in *The Second Book*, on leaf 35<sup>V</sup>. See Figure 10 for the quotation in context.<sup>45</sup>

...And that of *Gilbertus*, our countryman, who revived, with some alterations, and demonstrations, the opinions [theories] of *Xenophanes*, ...

Figure 10: Bacon's *Gilbert and Copernicus*

The Pierpont Morgan Library, New York. PML 37259. Gift; Mr. Roland L. Redmond; March 1942.

Leaf 35<sup>V</sup>Leaf 36<sup>R</sup>

Bacon expects of his readers preknowledge of Xenophanes and the astronomy theories from Greek antiquity to what Gilbert revived, modified, and demonstrated by his cutting-edge experiments published just five years earlier. Bacon has no need to explain Gilbert's magnetic theory and defense of Copernicus. The readers are assumed to know.

On leaf 36<sup>R</sup>, also reproduced in Figure 10, Bacon summarizes the current debate about Copernicus:

...So we may see that the opinion of *Copernicus* touching the rotation of the Earth, which Astronomy itself cannot correct; because it is not repugnant to the *Phenomena*, yet Natural Philosophy may correct,...

Bacon modernized:

- *So we may see that the opinion of Copernicus, touching the rotation of the Earth*—the assertion that EARTH actually spins remains, in 1605, just an opinion, a theory unproven.
- *Which Astronomy itself cannot correct*—however, it is also a theory that current astronomical knowledge cannot disprove.
- *Because it is not repugnant<sup>46</sup> to the Phenomena*—the Copernican theory cannot be dismissed as a false theory, because it can be used to calculate future planetary positions from the astronomical tables of observations.
- *Yet Natural Philosophy may correct*—However, Bacon continues, if proper study is made of the natural world—as exemplified by Gilbert’s experimental study of magnetism—then new knowledge may be discovered which will definitively answer the question as to which cosmology is correct.

SPIRAL is found on leaf 56<sup>R</sup> in *The Second Book*, where Bacon points to the great flaw in the Aristotelian theory. See Figure 11 for the quote in context.<sup>47</sup> The salient sentence [emphasis made **bold**]:

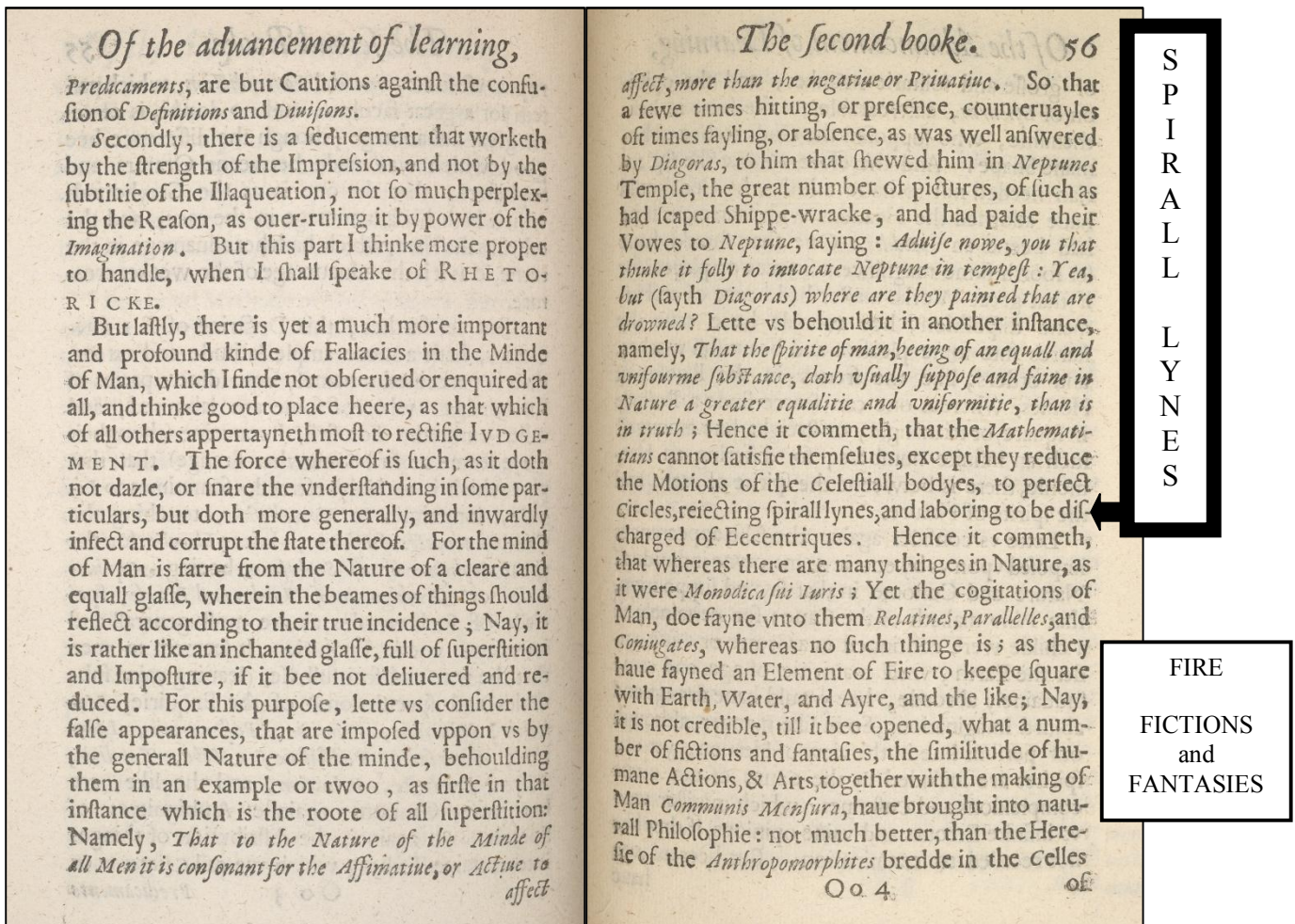
Hence it commeth, that the *Mathematicians* cannot satisfy themselves, except they reduce the Motions of the Celestial bodies to perfect Circles, rejecting **spiral lines**, and laboring to discharge the Eccentrics.

Now deep into his arguments to James about the importance of the scientific study of nature, Bacon describes as believers of “fictions and fantasies” those who argue through “cognitions of man”—that is, philosophical speculation without evidence, such as formulating the need for the element FIRE to balance the other ELEMENTS: “...they have fayned [invented] an Element of Fire to keepe square with Earth, Water and Ayre.”

Figure 11: Bacon's use of SPIRAL

The Pierpont Morgan Library, New York. PML 37259. Gift; Mr. Roland L. Redmond; March 1942.  
Leaf 55<sup>V</sup>

Leaf 56<sup>R</sup>



He then rants against the astronomers who cleave to the received wisdom of the four ELEMENTS, and who—says Bacon, mockingly—focus their efforts on refining Aristotelian calculations to eliminate the need for the artifices of ECCENTRICS and “spirall lynes” SPIRALS.

According to the Aristotelian cosmology, the EARTH is immobile in the center of the WORLD, orbited by the PLANETS that move by being attached to spinning spheres, with each PLANET coursing through the sky in a perfect circle. Yet since antiquity it was actually known the perfect circle was false! Because, to be able to predict future positions from the tables of observations, it

was necessary to invent adjustment circles—the EPICYCLES and ECCENTRICS—and a motion that moves upwards and downwards—SPIRALS.

SPIRAL is a concept that Bacon does not need to explain because it is *part and parcel* of the Aristotelian cosmology that everyone is expected to understand. (A half-century later when Edlyn publishes his defense of Copernicus SPIRAL is used without explanation.<sup>48</sup>)

#### No Proof

Bacon's *Advancement of Learning* documents that at the time Shakespeare prepares *Hamlet* Q2 to go to press the two cosmologies are actively argued, and there is no evidence to either refute or validate the Copernican theory. In 1605, even Bacon cannot prove Copernicus is correct.

From their personal experience of perceiving the EARTH to be stationary, the *Wiser Sort* reject Copernicus and continue to believe in the Aristotelian cosmology. It is for this audience that Shakespeare will build the Copernican pun.<sup>49</sup>

#### Shakespeare

But which cosmological theory did Shakespeare himself believe?

William Sloane Kennedy (1850-1929) posed the question just over a century ago. He argues that Shakespeare must have known the latest cosmological theories, because the smallness of London physically and the great minds of Elizabethan science concentrated there makes it implausible that he could not have known.<sup>50</sup>

Kennedy then suggests what it was that Shakespeare believed [emphasis made **bold**]:

[Shakespeare]...was only supremely interested in his own department of poetic idealism, and in **whatever affected the heft of the cash-box at the Globe.**<sup>51</sup>

Give the public what it wishes to hear and see, what it is willing to pay for—*write to fill the theater*. It is the *business* of being a successful playwright which is to be found reflected in the plays, and not Shakespeare's personal beliefs in the truth or falsehood of any particular

astronomical system. This sentiment echoes Thomas Warton (1728-1790) who comments in his *History of English Poetry* that “Shakespeare’s aim was to collect an audience, and for this purpose all the common expedients were necessary.”<sup>52</sup>

What it was that Shakespeare believed does not matter. What is important is what he found convenient to exploit, so as to engage the interest and gain the patronage of an audience. The *Stella Nova* event and the debate about the Copernican theory, I suggest, would have been exploited.

Having completed the orientation to the competing cosmologies and demonstrated the skepticism among the *Wiser Sort* to the unproven Copernican theory, I will now argue that *Mortal Coil* is a pun on Copernicus.

## 5. MORTAL COIL

“Mortal coil” in *Hamlet* is a sophisticated pun. Three concepts must be simultaneously considered in the conscious mind to perceive its meaning. The first alerts the mind to the pun—the set-up. The second manipulates the commonplace Elizabethan metaphor for death. The third is a Copernican antonym to an Aristotelian cosmological technical word. The *Wiser Sort* of Shakespeare’s contemporary audience had preknowledge of the three concepts and would have comprehended and savored the subtle joke.

### *First Concept: Set-up*

When Shakespeare has Hamlet begin the soliloquy—*To be, or not to be – that is the question*—those in the audience who were of the *Wiser Sort* would immediately recognize the standard format for a scholarly disputation.<sup>53</sup> Hamlet debates with himself what he should do [emphasis made **bold**]:

- **Stoically** accept, and live.  
*Whether ‘tis nobler in the mind to **suffer** the slings and arrows of outrageous fortune*
- **Violently** oppose, and die.  
*or to **take arms** against a sea of troubles, and by opposing end them, to die.*

A few lines on, while considering the consequences of death, Shakespeare should have had Hamlet say: MORTAL GLOBE, or, MORTAL WORLD. Both are the established metaphors to declare that upon dying Hamlet will leave the GLOBE and WORLD, as Chamberlain wrote in his letter of 1603: “The old Lady Fitzwilliams hath left the world likewise, with many other old women among whom there is come a kind of mortality....”<sup>54</sup> Instead, Shakespeare has Hamlet say: MORTAL ‘coil’.

When the Elizabethan mind encounters the word “mortal” in a context of death, the next word anticipated is either GLOBE or WORLD. Shakespeare confronts his audience with ‘coil’. The

clash between the expectation (GLOBE or WORLD) and what Shakespeare wrote ('coil') sets up the condition for the pun.

### ***Second Concept: Metaphor for Death***

The 'set-up' for the pun eluded the post-Elizabethan Shakespeare scholars, perhaps because MORTAL WORLD and MORTAL GLOBE were no longer terms in current use as euphemisms for death. This led them to err by focusing on the word 'coil' alone.

#### 'Coil' as Metaphor for Agitation

In 1747, William Warburton (1698-1779) explained *Hamlet's* "mortal coil" to mean "turmoil, bustle," setting the precedent for this understanding. See Figure 12.<sup>55</sup>

However, it is the word 'coil' alone—not associated with MORTAL—that was the Elizabethan metaphor for variants of agitation. It was so used by Shakespeare's contemporaries<sup>56</sup> and by Shakespeare himself. See Table 1.

Figure 12: Warburton's *Mortal Coil*  
Archives, The City College of New York, CUNY

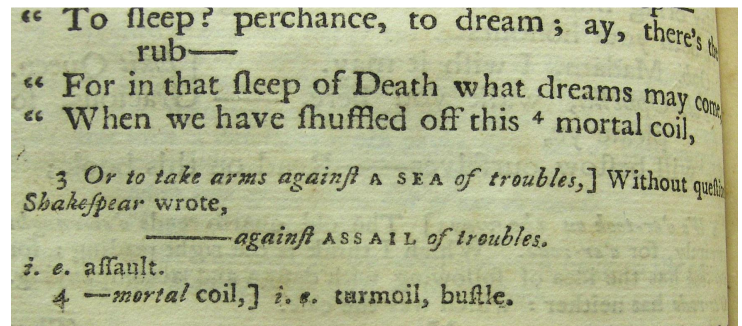


Table 1: *Coil* in Shakespeare's Plays (other than *Hamlet*)

1	<i>Tempest</i>	1.02.241	that this coyle / Would not infect his reason?
2	<i>Two Gentl. of Verona</i>	1.02.96	here is a coil with protestation!
3	<i>Comedy of Errors</i>	3.01.48	what a coil is there, dromio?
4	<i>Much Ado About Nothing</i>	3.03.91 5.02.91	there is a great coyle to-night. come to your uncle, yonder's old coile at home.
5	<i>Midsummer Night's</i>	5.02.96	you, mistress, all this coil is long of you.
6	<i>All's Well That Ends Well</i>	2.01.27	and kept a coil with "too young"
7	<i>King John</i>	2.01.177	I am not worth this coyle that's made for me.
8	<i>Titus Andronicus</i>	3.01.224	and wilt thou have a reason for this coil?
9	<i>Romeo and Juliet</i>	2.05.64	here's such a coil! Come, what says Romeo?
10	<i>Two Noble Kinsmen</i>	2.04.18	and there, / lord, what a coil he keeps!
11	<i>Timon of Athens</i>	1.02.230	what a coil's here.

The Furness *New Variorum* offers the following explanations (keyed to Table 1):<sup>57</sup>



- 4: *Coyle* = bustle, stir, tumult, turmoil.  
*Coile* = horrible bustling, terrible swaggering.
- 5: *Coil* = confusion, turmoil.
- 7: *Coyle* = disturbance, turmoil, confusion.
- 9: *Coil* = Furness quotes three scholars:  
 Nares: Noise, tumult, difficulty. Of very uncertain derivation.  
 Dyce: Bustle, stir, tumult, turmoil.  
 Clarke: Sh. Sometimes uses it to express what is signified in modern parlance by 'fuss,' 'to-do'.

The earliest compilers of dictionaries focused on 'hard' words, and 'coil' is not even listed.<sup>58 59</sup> Only after dictionaries expand to become comprehensive references is 'coil' defined: 'to wind about into a ring or circle', usually as a coiled rope or cable, with a nautical application. The metaphoric meaning of noise, bustle, and tumult is also given, qualified as being obsolete. Samuel Johnson's (1709-1784) dictionary of 1755 is credited as being the first to draw on usages from literature, and his definition for *Hamlet's* 'coil' is the same as Warburton's explanation of 1747.<sup>60</sup>

The 'modern' dictionaries, beginning with the Victorian age's *New English Dictionary* (*NED*), and its successor the *Oxford English Dictionary* (*OED*), gathered a great many usage examples,<sup>61</sup> of which one is pertinent [emphasis made **bold**]:

[v.<sup>6</sup>] ...Pour therein [a pot] your Oyl with a quantity of Water and **coil** these together with a Spoon till the Water grow darkens.

Anyone who has mixed two dissimilar substances—such as water and oil, or cream into coffee—will understand immediately that the *agitation of stirring* causes a coil to be visible as the dissimilar liquids are in a swirling, spiraling movement, but not yet homogeneously combined. This concept of agitation then continues in another *OED*-defined sense of coil, to mean 'noisy disturbance, tumult, turmoil, bustle, stir, hurry, confusion'. This leads to the

example of the phrase ‘to keep a coil’ which is defined as ‘a disturbance, make a fuss, bustle, much ado’. Continuing as a variant of ‘to keep a coil’, the *OED* lists “mortal coil” explained as

...the bustle or turmoil of this mortal life. A Shakespearean expression which has become a current phrase...

citing *Hamlet* III i 67 as the *sole example of this usage*.<sup>62</sup>

At this point the argument may be made for Warburton’s explanation. The Elizabethan mind expected MORTAL WORLD OR MORTAL GLOBE. Shakespeare substitutes ‘coil’. ‘Coil’ is the established metaphor for turmoil, bustle, and agitation. The play’s plot is a ‘coil’ from beginning to end; the ghost demands revenge, and Hamlet is agitated by outrageous fortune and a sea of troubles until the slaughter of the last scene. A MORTAL ‘coil’, therefore, is a life on the EARTH that is full of tumult, bustle, from which the only escape is through death by ‘shuffling off’ life.<sup>63</sup>

What could be more obvious?

#### ‘Coil’ as Metaphor for Encumbrance

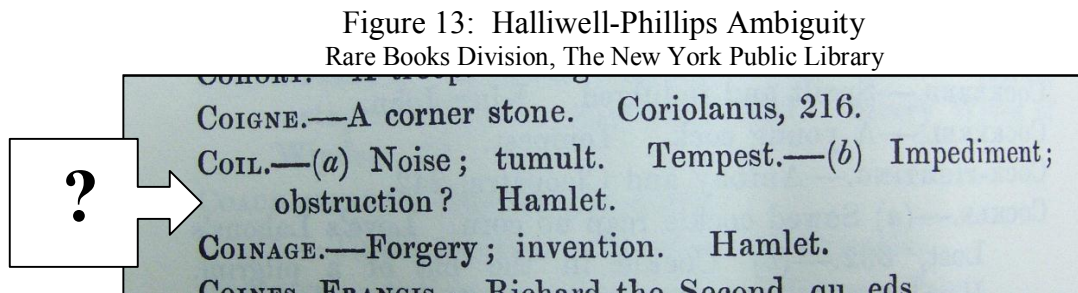
Yet, the Warburton definition proved unsatisfactory to later scholars who struggled to understand what is so special about a fatal, bustling, and agitating turmoil in *Hamlet* that it should also have the *tangible physicality* of some kind of encumbrance that may be ‘shuffled off’. See: “Appendix A: Twelve Scholars Explain *Coil*.”

Horace Howard Furness (1833-1912) brings in his *variorum* edition the opinions of eighteen scholars, selecting one with reluctance (see: item ‘4. 1877 Furness’ in “Appendix A”).

Furness’s choice:

It is here [that ‘coil’ in *Hamlet* is] used in each of its senses: turmoil, and that which entwines or wraps around. Snakes generally lie like the coils of ropes; and, it is conceived, that an allusion is here had to the struggle which the animal is obliged to make in casting his slough.<sup>64</sup>

Most telling is the ambiguity of James Orchard Halliwell-Phillips (1820-1889). He assigned ‘noise, tumult’ to the use of ‘coil’ in *Tempest*, but sought a different meaning in *Hamlet*, and flags his dissatisfaction with a ‘question mark’. See Figure 13.<sup>65</sup>



In a fifty-page essay, the Shakespearian actor James Henry Hackett (1800-1871) puzzled over the many metaphors contained in the soliloquy and questioned how an actor goes about playing it on the stage.<sup>66</sup> He suggested to his readers that they should try to imagine an artist attempting to portray the soliloquy in a painting:

If the metaphors were reduced to painting, we should find it a very difficult task, if not altogether impracticable, to represent [the metaphors] with any propriety [appropriateness]....

About ‘coil’ specifically, Hackett expressed the difficulty of coupling a meaning of tumultuous noise with the simultaneous removal of an impediment or obstruction [emphasis made **bold**]:

A man may be exhibited shuffling off his garment or his chains; **but how he should shuffle off a coil**, which is another term for noise and tumult, **we cannot comprehend**.<sup>67</sup>

Yet despite the doubts, Warburton’s ‘turmoil and bustle’ and the Victorian-age’s concept of some sort of a removable obstruction continue to be the popular definitions. See: “Appendix B: Survey of 160 Editions Defining *Coil* in *Hamlet*.”

Note: The Victorian perception of a physical and tangible obstruction contrasts with John Foxe’s Elizabethan *metaphysical* usage [emphasis made **bold**]: “But there is no felicity or

wealth in this mortal world so perfect, which is not **darkened with some cloud** of encumbrance and adversity.”<sup>68</sup>

### Time’s Curtain

The drawing of time’s curtain obscured Shakespeare’s Copernican pun to the *Hamlet*-editors and scholars; I suspect for three reasons:

- Lost was the appreciation of MORTAL GLOBE and MORTAL WORLD as Elizabethan ‘memento mori’.
- When commentaries with glossaries became necessary to explain Shakespeare’s words that were no longer in common use and not understood, the editors themselves were unaware of the effect of the *Stella Nova* on the Elizabethan audience at the very moment when Q2 was sent to print. Being generations removed from the reaction to the NEW STAR they could not perceive the wonderment that Shakespeare exploited (discussed below). The scholars who flourished in eras increasingly remote from Elizabethan experience may never have been aware of the nova, or, if they did know, did not associate the event with *Hamlet*.
- SPIRAL—as an astronomical term with a specific technical meaning—was unknown to editors living in eras when the Copernican theory was universally accepted, the Aristotelian a historical curiosity, and astronomers rely on instruments of increasing sophistication to scientifically explore a universe rationalized by the laws of Johannes Kepler, Isaac Newton, and Albert Einstein.

The ability to comprehend Shakespeare’s clever wordplay is restricted to the historical *moment* when belief in the Aristotelian cosmology was the norm, yet everyone also knew about but rejected the Copernican. It is for the audience of that instant that Shakespeare can grasp the opportunity to twist the obvious *synonyms* ‘coil’ and ‘spiral’ into cosmological *antonyms*.

***Third Concept: the Aristotelian SPIRAL and the Copernican ‘Coil’***

*Patient Reader*, please join me in a thought experiment.

Begin by assuming the cosmos to be Aristotelian. The EARTH within the GLOBE is immobile in the center of the universe. Your chair is on the surface of the EARTH’s sphere. The EARTH does not move. The chair does not move. You do not move. Your location in the cosmos may be precisely identified as a point in three-dimensional space. In your hand is a pen with the remarkable property of marking the fabric of space. Remove the cap. Observe a blob of ink hovering in space at the pen’s point, because the pen also does not move.

Change the model. Assume a Copernican cosmology. There are two simultaneous motions: the GLOBE with its ball of EARTH spins on its axis; as it orbits the Sun. Consider one motion at a time.

The GLOBE rotates on its axis. The twirling surface of the EARTH carries the chair and you with it in an arc, and the remarkable pen you hold aloft streaks space with a curved line. After turning precisely 360 degrees the arc closes onto itself and the pen’s point returns to the exact place in space where the cap was removed—a circle will be scribed. Should there be no other motion you will continue to overwrite the circle as the EARTH spins.

But the arc never closes to form a circle and the pen’s point never returns to the starting place where the cap was removed because of the simultaneous second motion of orbiting the Sun. When you look back at the path travelled in space evidenced by the streak left by the remarkable pen there is a *spiral*, a *coil*.

The *Wiser Sort* would understand that the *spiraling-coiling* through space is the theoretical consequence of the Copernican theory. Shakespeare would also know. No one needs

to *believe* that the Copernican *spiraling* and *coiling* path is reality; only to conceptualize the logical outcome of standing on an EARTH that spins on its axis while orbiting the Sun.

‘Coil’ and ‘spiral’ are synonyms. But Shakespeare will not have Hamlet say: shuffle off this MORTAL SPIRAL. The *Wiser Sort* comprehend SPIRAL in its Aristotelian-meaning *when used in an astronomical context*—and Shakespeare will play on this prejudice by using ‘coil’ for the Copernican antonym. How the synonym/antonym-play on words ‘works’ may now be analyzed.

### Explaining the *Mortal Coil* Pun

#### Fact

The following fact is beyond question: *Shakespeare and his audience in the few weeks before Q2 is published at the end of 1604 observed a NEW STAR appear in the sky.* On this foundation I argue the meaning of “mortal coil.” (More about the NEW STAR in its proper place.)

#### Debate

A *Stella Nova* appears in the sky unexpectedly. It is the *second* such celestial event within the living memory of Shakespeare’s audience. The *Wiser Sort* consider the astrological implications and argue the competing astronomical theories:

- Is it Aristotelian: The EARTH immobile in the center and around it orbits the Sun.
- Or, is it Copernican: The Sun in the center and around it orbits the EARTH.

What debates must have gone on in the Mermaid tavern!

#### Instrument to Create a Pun

Shakespeare knows that the NEW STAR is on everyone’s mind. He takes advantage of what intrigues the *Wiser Sort* at the moment because a ‘current event’ is the *instrument used to create a pun.*<sup>69</sup> He understands what has captured the curiosity of his targeted audience—whether they will be physically ‘outside’ looking up with wonder at the *Stella Nova* in the STAR-

filled sky; or ‘inside’ engaged with the plotline by reading his just about to come off-of-the-press quarto or attending the future playing of it in a theater. Shakespeare is inspired to modify the soliloquy to make the Copernican pun.

#### Entertainment

With the *Stella Nova* bright in the sky, Shakespeare’s audience comes to the latest version of *Hamlet* for entertainment. Q2 is the revised and enhanced edition—*newly imprinted and enlarged* as the title page advertises—and the *Wiser Sort* anticipate detecting the new clever puns that Shakespeare will slip in for their amusement. They will not be disappointed.

*Ghost appears on the ramparts*: The audience is reminded of the NEW STAR witnessed in their youth by a pun that appeared in the pre-Q1 and Q1 versions that is continued in Q2. It is joined with a new metaphor referring to the NEW STAR they see every night. (This is argued below in its proper place.)

*Hamlet contemplates death*: Shakespeare sets up the pun by having Hamlet begin a soliloquy with *To be or not to be*. The words prime the audience for a scholastic argument; the intellectual exercise that is always appreciated by the *Wiser Sort*. The audience follows Hamlet’s thoughts as he contemplates aloud the alternatives of life or death—the options of living meekly or dying honorably by attempting revenge:

- **Stoically** accept, and live.  
*Whether ‘tis nobler in the mind to **suffer** the slings and arrows of outrageous fortune*
- **Violently** oppose, and die.  
*or to **take arms** against a sea of troubles, and by opposing end them, to die.*

Knowing that his audience is attentive to the soliloquy’s consideration of death and its consequences;—aware that their prejudice is to expect the commonplace metaphors MORTAL WORLD OF MORTAL GLOBE,—certain that the *Wiser Sort* have the *Stella Nova* and the various

cosmological theories in mind;—understanding that they all comprehend the technical Aristotelian astronomical meaning of SPIRAL;—Shakespeare has Hamlet say: MORTAL ‘coil’.

### Reconstruction

My argument will now be summarized by speculating on what would flash in an instant through the minds of the *Wiser Sort*, as if it were possible to reconstruct the thought process of educated Elizabethans in Shakespeare’s audience of four centuries ago [emphasis made **bold**]:

- What’s this? MORTAL ‘coil’? Now that’s an unusual turn of phrase for a soliloquy contemplating death. It should be MORTAL WORLD or MORTAL GLOBE. Everybody uses these ‘memento mori’ all the time, including me—and so does William [Shakespeare] himself! So why now this phrase, MORTAL ‘coil’?
- Could it be that William means to tell us that Hamlet is agitated? But that’s obvious! From the very beginning he is agitated and remains so *continuously throughout the entire play*, as I remember from the earlier versions [pre-Q1 and Q1]; and he is in the same state in this revision [Q2]. So why specifically mention it now in this soliloquy *midway* in the play [third act]?
- Also, if it is to refer to a state of *agitation*, why not just say simply ‘coil’, as William and the other poets always use the term in so many other plays. Why MORTAL ‘coil’?
- Is this to imply an *agitation* that has MORTAL consequences? Is it because Hamlet is in danger of losing his life because of the agitation? No, that cannot be correct, because of the prerequisite condition that he must *shuffle off* of something, implying *standing on* something tangible that will be abandoned.
- Wait a moment, ‘coil’ is not referring to *agitation*, because Hamlet is to *shuffle off* from someplace consequential to dying, and that physical place can only be the EARTH! William should have Hamlet say MORTAL GLOBE. He knows the proper use of the phrase. This must be one of his new puns!
- **Could this be a contraction, alluding to a MORTAL GLOBE that is coiling?**
- But everybody knows that a MORTAL GLOBE refers to an immobile EARTH in the center of the WORLD, in the center of Creation. It does not SPIRAL nor does it ‘coil’, as that insane Copernicus would have the GLOBE do!
- Aha! **This is an allusion to the very real and currently ongoing scholastic debate—a dispute that even Sir Francis [Bacon] cannot resolve—*To be Aristotelian, or is it not to be Aristotelian but to be Copernican. That is the question!***



- And now I understand the reason for the revised soliloquy. It is the framework for William to pun on that ridiculous Copernican theory!

The *Wiser Sort* entertained, their appreciation gained, a chuckle elicited, his reputation as a pun master enhanced, Shakespeare continues on with telling the latest, improved and enhanced version of the *Hamlet* tragedy.

This argument may be criticized because the train of logical analysis seems just too long. However, we must not judge by the sensibilities of our time. When Q2 sees print there is a NEW STAR in the sky and the Aristotelian-Copernican cosmology controversy is hotly debated, as evidenced by Gilbert's *De magnete* and Bacon's *Advancement of Learning*. For the Elizabethan *Wiser Sort*, with minds honed to appreciate scholastic arguments and puns, the analysis—the stream of thought—would be near-instantaneous.

There is another consideration. If Q2 was written to be *read and played out in the mind*, rather than to be acted onstage in a theater, the reader can pause to puzzle over and savor a complicated metaphor.

But one may also imagine an actor on stage entertaining the *Wiser Sort*. Hamlet, with brow furrowed in serious concentration while reciting a soliloquy of life and death, having just said ...*To shuffle off this mortal...*, pauses ever so slightly, turns to an audience that expects the convention of MORTAL GLOBE / WORLD, raises an eyebrow, effects an incredulous look on his face, and with a tone of curious and questioning inflection, says—*coil?*

The actor's mockery would reflect the attitude among the *Wiser Sort* that the Copernican theory was just ridiculous; proven nonsensical during the very performance of *Hamlet* because everyone remains in place sitting on the benches and are not being flung about the theater by a twirling and coiling GLOBE as they would be by a catapult.

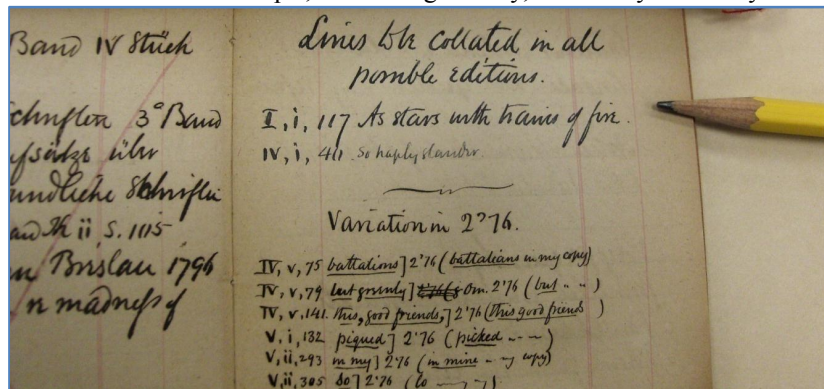
MORTAL ‘coil’ is a pun worthy of Shakespeare, for an audience that expects and appreciates puns—even in tragedies.

The premise that the *Stella Nova* of 1604 was the contextual event for a Copernican pun forces consideration of another question. Would not Shakespeare have included in Q2 a pun on the NEW STAR itself? The next argument proposes the phrase STARS WITH TRAINS OF FIRE is that heretofore unrecognized metaphor.

## 6. STARS WITH TRAINS OF FIRE

Horace Howard Furness jotted notes in a small memorandum booklet as he planned the research for his great *variorum* edition of *Hamlet*. In an undated entry, headed by “Lines to be collated in all possible editions,” he wrote: “I.i.117 As stars with trains of fire.” See Figure 14.<sup>70</sup>

Figure 14: Furness' Pocket Memo Notebook Entry  
Rare Books & Manuscripts, Annenberg Library, University of Pennsylvania



The resulting footnote listed the opinions of nineteen scholars. The Victorian-age Shakespearians were perplexed by this phrase. See: “Appendix C: Furness’ Footnote *As stars with trains of fire*.” None understood the pun on the Nova of 1604. To argue for this astronomical allusion, I begin by demonstrating the Elizabethan use of COMETS as prognosticators of tragedy.

### COMET as Prognosticator

Plainly obvious is the COMET that Samuel Daniel (1562-1619) wove into his telling of Rosamond’s tragedy:

Look how a Comet at the first appearing,  
Draws all mens eyes with wonder to behold it  
Or as the saddest tale at suddaine hearing,  
Make silent listening unto him that told it,  
So did my speech when Rubies did unfold it;  
So did the blazing my blush appeare,  
T’amaze the world, that holds such sights so deere.  
*The Complaint of Rosamond, 1601*<sup>71</sup>

Likewise obvious is the COMET that Ben Jonson included as the obligatory prognosticator of disaster in his tragedy of *Sejanus*:

But now a fieri meteor, in the forme  
Of a great ball, was seene to rowle along  
The troubled ayre, where yet it hangs, vnperfect  
The amazing wonder of the multitude!  
*Sejanus His Fall*, 1603<sup>72</sup>

However, when Shakespeare introduces into *Hamlet* Q2 a new oration invoking the assassination of Julius Caesar he apparently omits reference to Caesar's COMET:

*Hor.* A mote is to trouble in the mind's eye.  
In the most high and palmy state of Rome,  
A little ere the mightiest Julius fell,  
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 fierce events,  
As harbingers preceeding still the fates  
And prologue to the omen coming on,  
Have heaven and earth together demonstrated  
Upon our climatures and countrymen.  
*Hamlet*, 1604<sup>73</sup>

The historical celestial event of a COMET appearing during the reign of Augustus not long after the murder of Julius Caesar was famously remembered since classical times. It was believed to signify Caesar's status as a Roman god. Augustus had coinage embossed with a COMET to link his reign with the divine Julius. See Figure 15.

Figure 15: Roman Coins depicting Julius Caesar's COMET  
 © Trustees of the British Museum



The story of Julius Caesar's COMET would be known to the classically educated *Wiser Sort*. Shakespeare himself could not be ignorant of it. So why is mention of a COMET omitted from the enumeration of so many grisly and ominous prognosticators? Especially when Shakespeare knows the convention and understands that his audience, the *Wiser Sort*, would expect it!

The answer is very simple. The drawing of time's curtain has obscured the COMET reference to the modern audience. It is in plain sight, as the phrase STARS WITH TRAINS OF FIRE.<sup>74</sup> Time has hidden a pun that would be obvious to an audience who observed the *two* NEW STARS of 1572 and 1604, and all the COMETS that appeared in between.

### What did Shakespeare Observe?

Two remarkable celestial events occurred in Shakespeare's lifetime: when he was age eight in 1572; and again in 1604, at the height of his creative powers, when age forty.

- What did the young Shakespeare and his future audience observe in 1572?
- What was seen just before the revised *Hamlet* manuscript went to press in 1604?
- How did Elizabethan astronomers explain the event of 1572 that would certainly be debated again immediately when the event of 1604 occurred—when Shakespeare still had opportunity to add a few lines to his manuscript?

- What was in the sky as the *Wiser Sort* went to Nicholas Ling's shop in Fleet Street to buy a copy of the latest version of *Hamlet*?
- Was it a COMET? The commonplace metaphor for a COMET is a BLAZING STAR—or as Shakespeare has it, a STAR WITH A TRAIN OF FIRE.

### COMET – STAR WITH TRAIN OF FIRE

COMETS are moving STARS, also known as BLAZING STARS and METEORS. They appear unpredictably and in strange shapes, but with three expected characteristics: (1) The STAR; (2) from which extends a BLAZING HAIRY TAIL OR BEARD; and (3) it moves, it travels across the sky until it disappears.<sup>75</sup>

Thomas Twyne (1543-1613) published an account of the COMET of 1577. Throughout the text he uses BLAZING STAR, METEOR, and TAILED STAR as synonyms.<sup>76</sup>

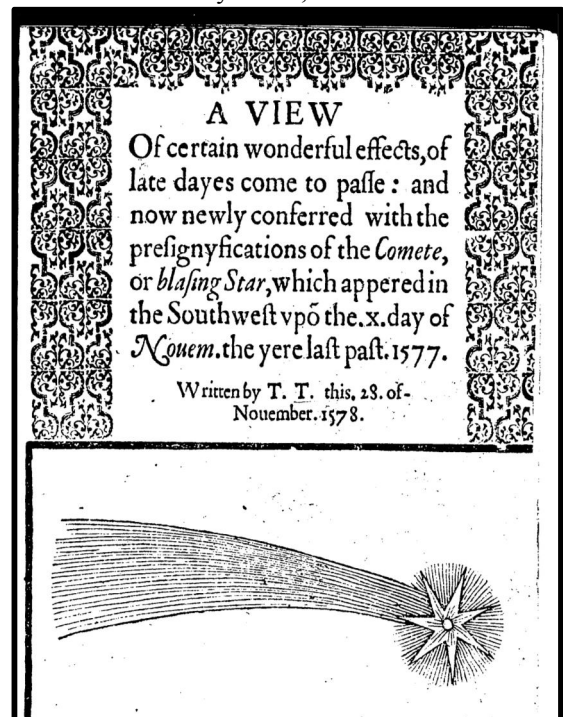
...a strange Meteore, or Elementare Impression, commonly called a Comete, or Blasing Star. The sight whereof, as it drew unto it the eyes of many to behold it....

by the gleame of this tailed Starre...

But of all the predictions belonging to *Meteorographie*, it is the hardest to foretell the appeering of a Comete...

See Figure 16 for Twyne's title page.

Figure 16: Comet of 1577 by Twyne  
© British Library Board, shelf mark 1395.c.3



Figures 17 and 18 are additional representations of the COMET of 1577 as a BLAZING STAR.

Figure 17: Broadside of the COMET of 1577 seen at Prague<sup>77</sup>  
Zentralbibliothek Zürich, Graphische Sammlung und Fotoarchiv



Figure 18: COMET of 1577 over Haarlem  
© Trustees of the British Museum: Image AN00576085



John Bainbridge (1582-1643) published a 42-page pamphlet with astronomical observations followed by the obligatory astrological prognostications when the COMET of 1618 appeared. COMETS, BLAZING STARS and METEORS are synonyms [emphasis made **bold**]:

- Of COMETS in general, he says: “Heere I would have those who **ranke Comets amongst inconstant** [unpredictable] **Meteors....**”
- Under the marginal heading “Astronomical propositions concerning the comets motion,” he ponders over the mechanism of movement: “By what *Primum Mobile* this Comet (Keeping so just a line [straight trajectory]) was whirled about the earth every foure and twenty houres?”
- Under another marginal heading “**The Comets Blazing Stream**”: “Now we are come to that from which **Comets, or Blazing-stars are denominated; the tayle, or rather the blazing streame**, which in this Comet was very remarkable....”
- And after presenting arguments why the COMET was above the Lunary region, he says: “I must relate unto them that besides those **famous new stars**, the one in [the CONSTELLATION of] *Cassiopea* 1572. and the other in the foot of [CONSTELLATION] *Opiuchus* 1604. both which lasted more than a yeere,....” The two NEW STARS are always mentioned alongside COMETS.<sup>78</sup>

Bainbridge is an Aristotelian. In the title page (Figure 19) a woodcut strikingly illustrates the GLOBE centered in the sphere of the WORLD, with an ‘eye’ for mankind depicted on the surface of the EARTH gazing at the sky in conformance with a quotation from *Isaiah*.<sup>79</sup> At the top is Heaven where God resides, symbolized by “Jehovah” in Hebrew. Between Heaven and the GLOBE are three varieties of STARS. The FIXED STARS are depicted by six-spiked symbols. Three PLANETS (moving STARS) are indicated by their astronomical symbols: Mercury to the left at the horizon; Mars centered above the GLOBE, and Saturn is to the right. The COMET, the BURNING STAR, is depicted as a large STAR with a translucent tail, through which can be seen FIXED STARS.



Figure 19: John Bainbridge - COMET of 1618  
Rare Books and Manuscripts, Butler Library, Columbia University



Figure 20 is the dramatic image of the COMET of 1673 by William Lilly (1602-1681).<sup>80</sup>

Figure 20: William Lilly – COMET of 1673  
The Trustees of the National Library of Scotland, Rare Book Collections, shelf mark 1.129(5)

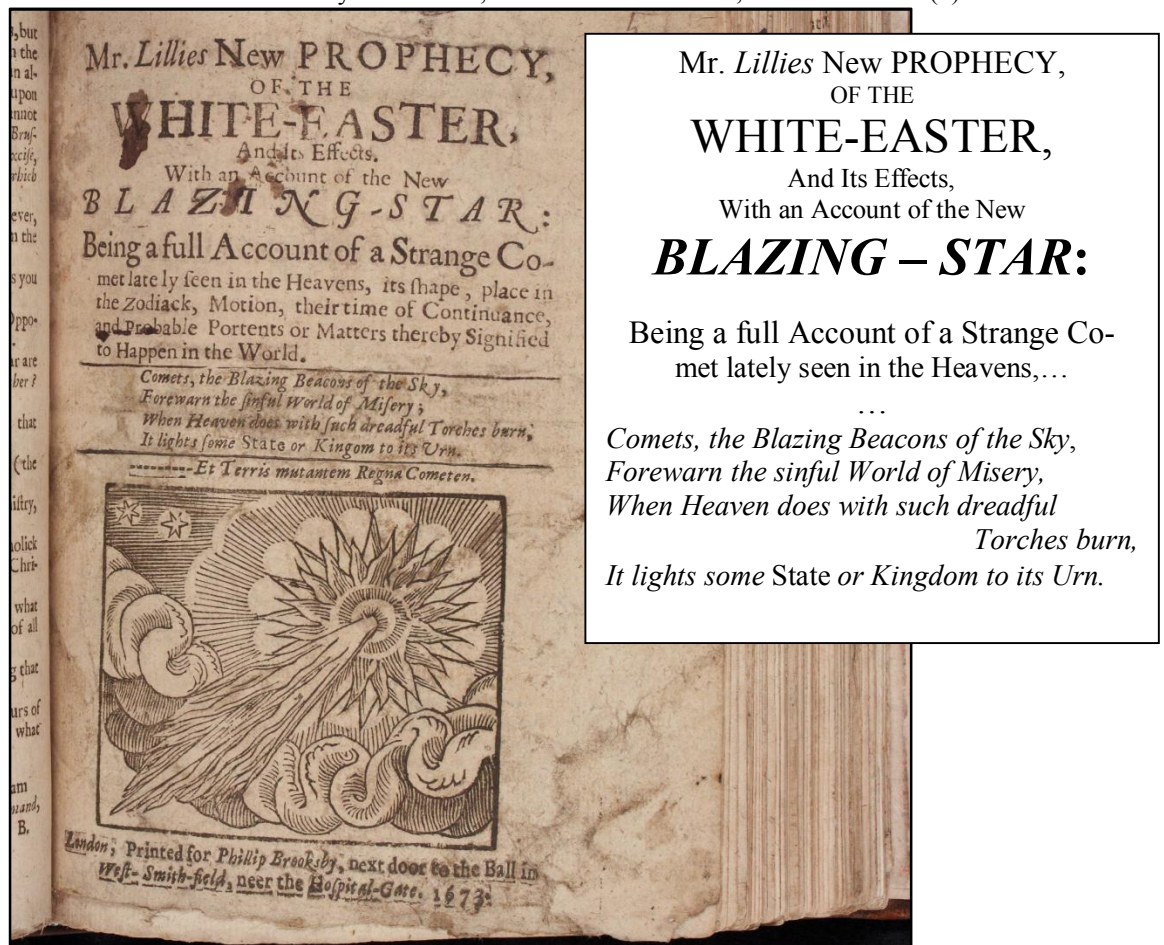
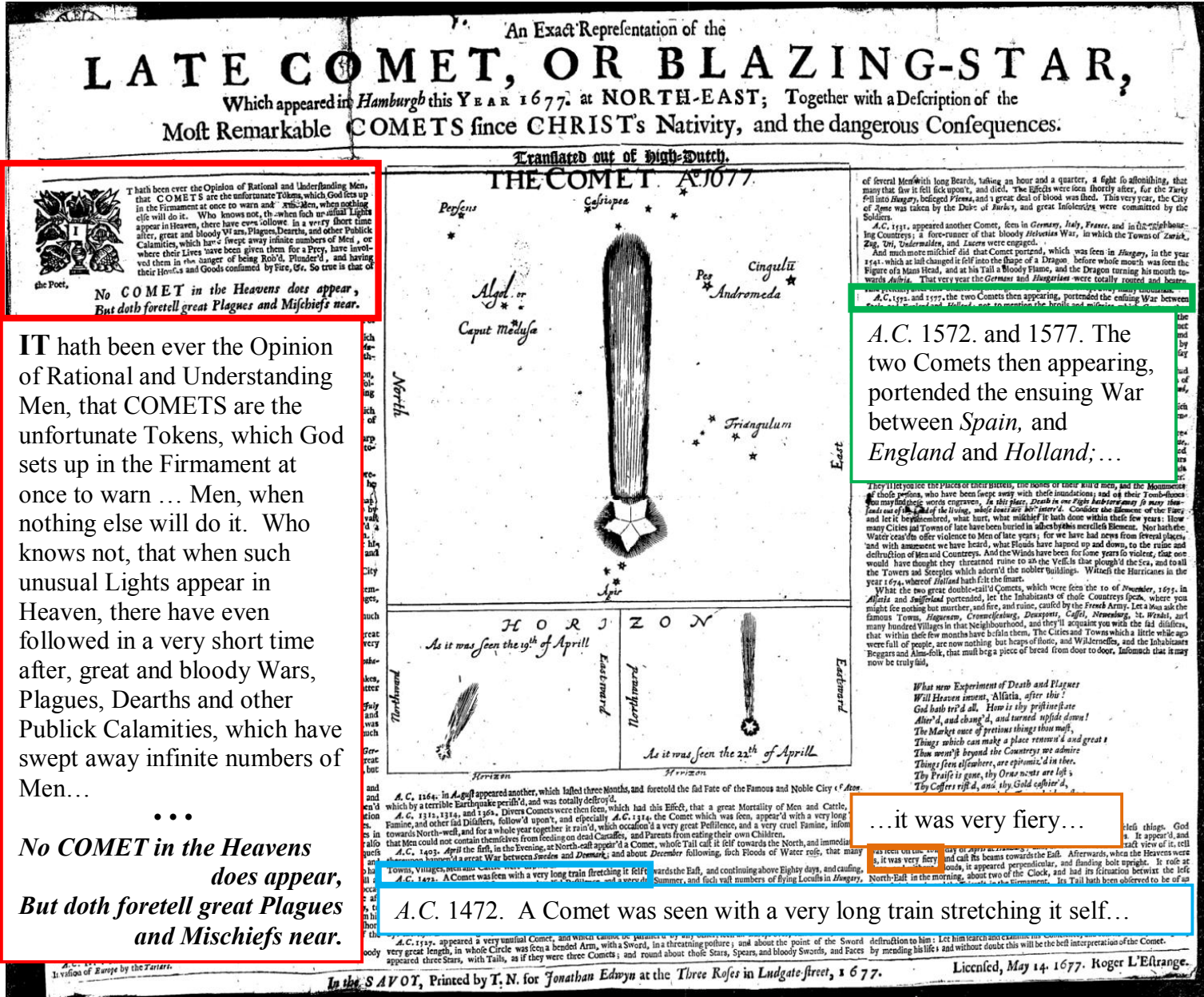


Figure 21 is an anonymous broadside describing the COMET of 1677.<sup>81</sup>

Figure 21: Broadside – COMET of 1677  
The Bodleian Libraries, University of Oxford, Shelfmark Ashm. 309 (10)



IT hath been ever the Opinion of Rational and Understanding Men, that COMETS are the unfortunate Tokens, which God sets up in the Firmament at once to warn ... Men, when nothing else will do it. Who knows not, that when such unusual Lights appear in Heaven, there have even followed in a very short time after, great and bloody Wars, Plagues, Dearths and other Publick Calamities, which have swept away infinite numbers of Men...

No COMET in the Heavens does appear, But doth foretell great Plagues and Mischiefs near.

A.C. 1572. and 1577. The two Comets then appearing, portended the ensuing War between Spain, and England and Holland; ...

A.C. 1472. A Comet was seen with a very long train stretching it self...

...it was very fiery...

### Shakespeare's Comet

The above should amply demonstrate that the verbal imagery of a STAR WITH A TRAIN OF FIRE would be understood by Shakespeare's audience as representing a COMET, and in a soliloquy about the assassination of Julius Caesar, it could only refer to Caesar's COMET.

But Shakespeare has the phrase in the plural— STARS WITH TRAINS OF FIRE. This implies more than one COMET. To understand the play of the plurality in making the pun it is necessary to explain what his audience observed twice in their lifetimes, first in 1572, and again in 1604.

What exactly was seen in 1572?

### **Tycho's NEW STAR of 1572**

Modern astronomy differentiates between *nova* and *supernova*. A nova occurs when just the outermost layers of a star explode; the luminosity may increase as much as 10,000 times for a few months. A supernova is many magnitudes more violent. The innermost layers catastrophically explode to cause total annihilation, generating a burst of light a *billion* times more luminous than radiated before the event. The energized remnants expand in interstellar space and continue to radiate light for years, but with decreasing intensity as the ejected matter cools. The supernova of 1572 is described as being "so bright that it could be seen distinctly, even in daytime"<sup>82</sup> "its brightness rivaled Venus"<sup>83</sup> only to eventually fade away and, in a year or more, changing in color from white (most energetic) to yellow to red before disappearing from sight.<sup>84</sup> Observed by the naked eye, a supernova suddenly appears as a very large and extremely brilliant star in the sky where none existed before, to gradually change color, dim, and vanish.

Modern observational devices routinely detect novae and supernovas within our galaxy and in far-off galaxies. However, supernovae within the galaxy sufficiently near to be perceivable by the unaided eye are very rare events. Stephenson and Green report:

Careful investigation of historical records of temporary stars has revealed that over the past 1500 years only five clearly identifiable Galactic supernovae have occurred....Light from these stellar outbursts reached the solar system in the following years: AD 1006, 1054, 1181, 1572 and 1604.<sup>85</sup>

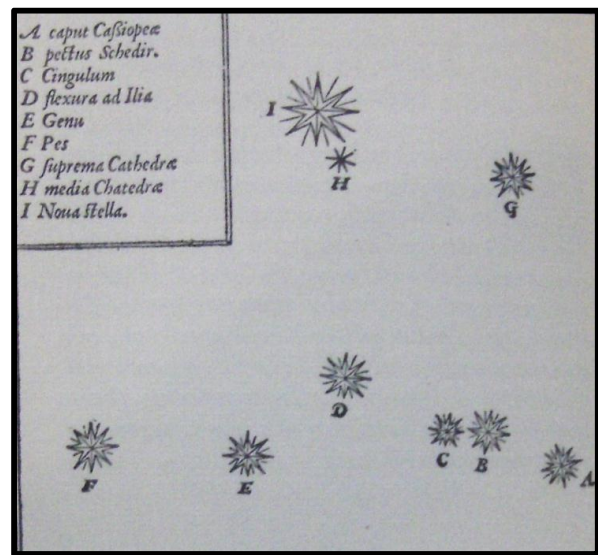
The event of 1572 was a supernova.<sup>86</sup> The Elizabethans could only marvel at what suddenly appeared in the sky. There were two schools of thought: a NEW STAR is created; a very unusual COMET has appeared.

### The NEW STAR Theory

Many astronomers left descriptions about the 1572 event. Tycho Brahe's was considered the best, and it was associated with his name.<sup>87</sup> His report included a star chart showing the NEW STAR's position.

Tycho shows the FIXED STARS that were adjacent to the NEW STAR. They are drawn to different sizes. By the naked eye, astronomers could discern and classify magnitudes of brightness among the named STARS, this portrayed by size. The NEW STAR is shown extraordinarily luminous in comparison to its neighbors. See Figure 22.<sup>88</sup>

Figure 22: Tycho's NEW STAR of 1572



After Tycho's death in 1601 his Latin account of the *Stella Nova* was republished. This edition was translated in 1632, providing a near-contemporary Elizabethan English description of the NEW STAR's appearance [emphasis made **bold**]:

this *Starre*,...it shined forth most miraculously, and contrary to the Lawes of Nature, even in the highest Firmament, **like to the other Naturall Starres, and stood there fixed and immoveable for the space of a whole yeare and more**,...

For albeit, it shined **without a taile or any scattered beames**, (for then it had been a Comet)....

And so passing to the unfolding [considering] of the Paralax...I have cleerely proved by divers invincible reasons that it had none at all, and that it was exalted, not onely above the Elementary Region, and the confines of the Moone,

but farre beyond the Orbes of the Planets, **even to the highest Spheare of the fixed stares....**

this new Star, which **always stood fixed in one place...**For, as this was a rare and wonderfull *Starre*, **shining forth in the heavens unexpectedly....**

Yet the forme of it, when it shewed it selfe from the beginning, shining forth with a **joviall** [azure, bright blue], **cleere, and bright lustre,...the Maritall** [red] **fiery glistering** [defined below]...; ...shined foorth at the beginning, with a cleare and amiable aspect, but yet **at last did change in colour, and lessen in proportion, until at length it vanished quite away:...**

And as this *Starre* appeared in the highest heavens, **to the view of the whole world,...**

What can be more evident, concerning this cleere *Starre* which was beheld in our time, for that was **more bright and shining than any of the rest, and was round in forme like unto a Crowne, having no beames right shooting from it as Comets have**, besides it continued for a whole yeare and kept his Station in the Firmament with the other *Starres*....<sup>89</sup>

King James was age six when he saw the Nova of 1572. The meaning intended by Tycho's description "...**Maritall** [red] **fiery glistering** ..." may be appreciated by the example of usages by James in his poem commemorating the naval Battle of Lepanto [emphasis made **bold**]:

Line 38: As **glorious** God in **glistering** throne / With Angells round about.

Line 556: The **glistering** cleare of **shining Sunne**.

Line 622: ... the **glistering** vaults / Of all the Planets seaven.<sup>90</sup>

And in *Basilicon Doron*, James's testimonial instruction to his son and heir, Prince Henry:

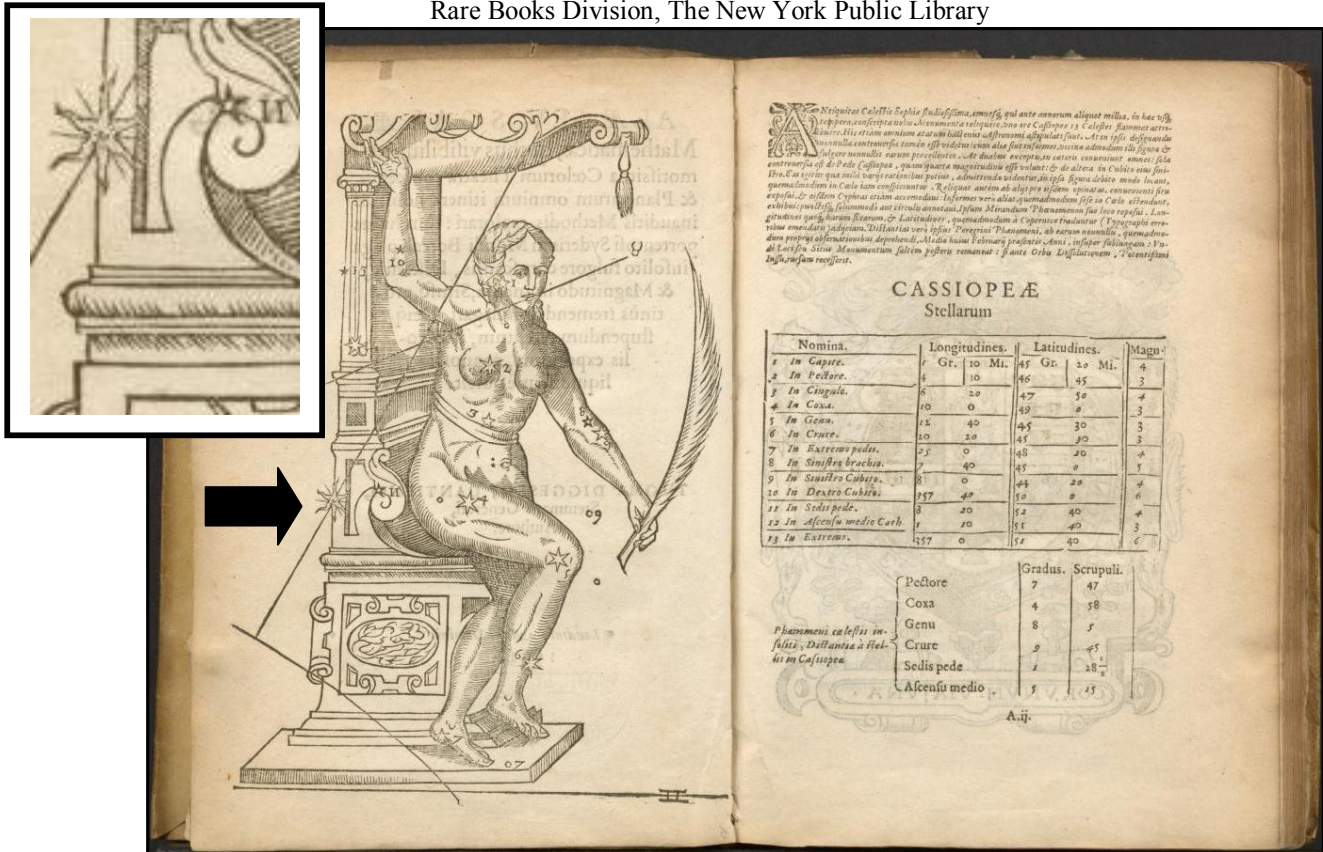
***The true glory of Kings:***

Remember then, that this **glistering** worldly **glorie** of Kings, is given them by God, to teache them to preasse [to press, that is to act with unrelenting determination] so to **glister & shine** before their people, in all works of sanctification & righteousnes, that their persons **as bright lampes** of godlines and virtue may, going in & out before their people, **giue light** to all their steppes...<sup>91</sup>

In England, in 1573, Thomas Digges also published a report. His star chart shows *Cassiopeia* sitting on her throne. The CONSTELLATION'S thirteen FIXED STARS are portrayed, with

the NEW STAR brightest of all. On the facing page a table lists their names, positions, and in the rightmost column, the relative magnitudes of brilliance. See Figure 23.<sup>92</sup>

Figure 23: NEW STAR of 1572 - Depicted by Thomas Digges  
Rare Books Division, The New York Public Library



### The Unusual COMET Theory

Other astronomers could not accept the *creation* of a new FIXED STAR. A very unusual kind of a COMET was conceptualized to rationalize the fact that it did not move across the sky.

Lynn Thorndike explains how astronomers argued to ‘fit’ the NEW STAR into the Aristotelian cosmology, thus conflating the *Stella Nova* with COMETS:

The star of 1572 proved to be less inalterable and abiding than the fixed stars and the planets. Its color soon altered, its magnitude diminished, and its brightness waned. Finally, after shining all through the year 1573, it disappeared from sight early in 1574....Johann Praetorius, professor of mathematics at Wittenberg and then at Altdorf, in his tract on the subsequent *Comet of 1577*, said of the star of 1572 that, while it was shining, astrologers and philosophers differed as to whether it was a fixed star, a new divine creation, a comet. But that after it

disappeared, there was general agreement that it was a meteor rather than a star but in the ethereal region....<sup>93</sup>

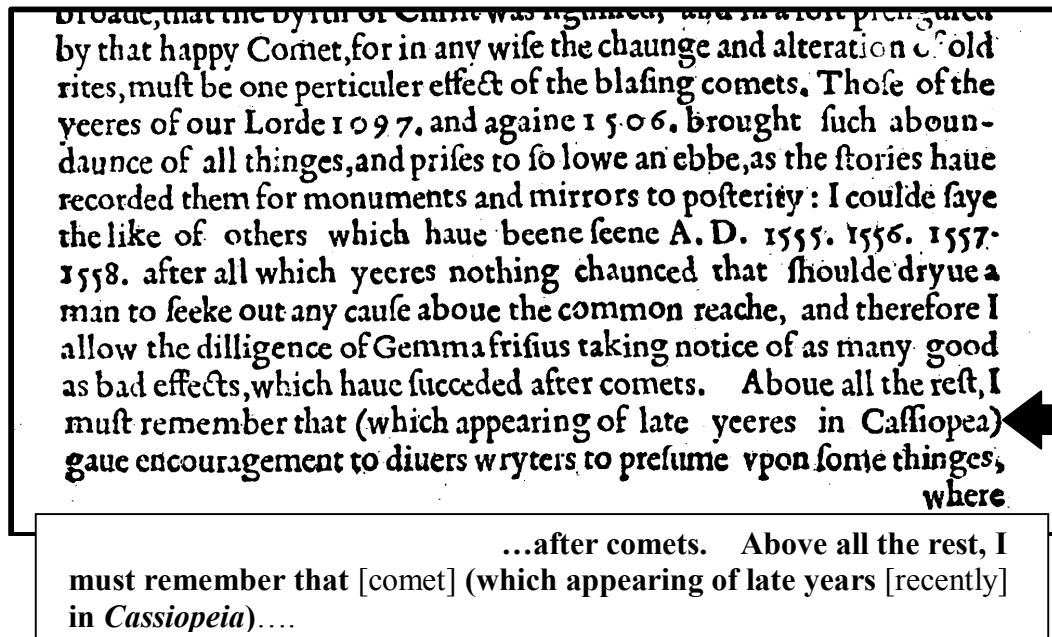
The perception that the Nova of 1572 was a variety of COMET is found in a work by Henry Howard, Earl of Northampton (1540-1614). The popular expectation of the pernicious effects of COMETS on the survival of monarchs was not lost on Queen Elizabeth and her advisors. After two celestial events—1572 and 1575—followed close upon one another, Northampton wrote a defense for the Queen by refuting astrology (among other superstitions he addressed), printed in 1583. The title-page explains the reason for the book [emphasis made **bold**]:

Not hitherto confuted by the Penne of any man, which being grounded, eyther vpon the warrant and Authority of olde paynted bookes, expositions of Dreames, Oracles, Reuelations, Inuocations of damned spirites, Iudicialles of Astrologie, or any other kinde of pretended knowledge whatsoever, De futuris contingentibus; **haue beene causes of great disorder** in the common wealth, **cheefely among the simple and vnlearned people: very needfull to be published at this time, considering the late offence,** which grew by most palpable and grosse errors in Astrology.<sup>94</sup>

Use of the word "chiefly" in the phrase "...great disorder...chiefly among the simple and unlearned people..." implies alarm also among the educated population.<sup>95</sup>

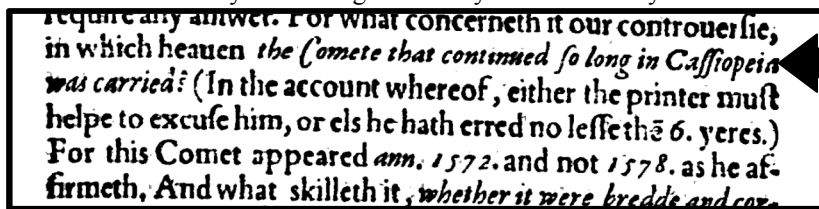
Northampton argues that COMETS are not prognosticators of evil because some coincided with times of abundance and low prices—prosperous times. In discussing COMETS, he unambiguously considers the *Stella Nova* of 1572 to be of them. After listing earlier COMETS that appeared in 1555, 1556, 1557 and 1558, he includes the event in CONSTELLATION *Cassiopeia* that he witnessed as also a COMET. See Figure 24.<sup>96</sup>

Figure 24: Northampton references the COMET in *Cassiopeia*.  
Henry E. Huntington Library and Art Gallery



In 1603, Sir Christopher Heydon (1561-1623) also understood the event in *Cassiopeia* to be a COMET. See Figure 25.<sup>97</sup>

Figure 25: Heydon references the COMET in *Cassiopeia*.  
Henry E. Huntington Library and Art Gallery



### Two Standards

In 1604, when Shakespeare and his fellow Elizabethans gaze with wonder at the new celestial event they had two standards in mind to contemplate and compare: (1) the very special version of a COMET seen in 1572; and (2) the usual kind of COMETS with the expected features that appeared since then.<sup>98</sup>

What exactly was seen in 1604?



### Kepler's NEW STAR of 1604

John Robert Christianson, in his biography of Tycho Brahe's assistants, quotes David Fabricus (1564-1617) [emphasis made **bold**]:

After moving to Osteel, Fabricus reestablished his observatory...he became the first to observe the supernova of 1604 "**like a burning light**"... near a conjunction of Jupiter and Mars. He published three German and Latin pamphlets on the supernova....<sup>99</sup>

W. W. Shea writes of the NEW STAR's appearance from Galileo's lecture notes:

In the holographic notes that have survived, Galileo states that the new star was initially small but grew rapidly in size such as to be **bigger than all the stars, and all of the planets** with the exception of Venus. Its colour was **reddish-brown** like Mars, but it also had something of the **golden brilliance** of Saturn. It **sparkled**, namely it seemed to die out only to flare up immediately, such that it had the **redness of Mars** when it appeared to go out, and the **splendor of Jupiter** when it burst forth again....<sup>100</sup>

Max Caspar, in his biography of Kepler, described the event:

On October 17, the weather was clear and he [Kepler] saw the wonderful spectacle. In [the constellation] Ophiuchus near the three outer planets, Saturn, Jupiter and Mars, which were all close together, a **fourth star had appeared**; it competed with Jupiter in **brilliance** and **sparkled in the colors of the rainbow, like a well-cut diamond turned in the sun-light**.<sup>101</sup>

A. Lombardi writes of Kepler's report:

...provide[s] as many observational data as possible. Kepler's observations are compared with those of the most important European astronomers, as regards the shape, the color the brightness, the dimensions of the new star, the duration of his [*sic*] visibility in the sky, and its position. Kepler concludes that the star is **perfectly round and without any kind of tail, it sparkles, is multi-colored, and greater than Jupiter**....<sup>102</sup>

Walter Baade derived a time-line from the recorded observations of Kepler and his contemporary astronomers in Europe and China:

The nova appeared at the beginning of October, 1604 [using Gregorian dating], far down in the southwestern sky, close to Jupiter and Mars....it was discovered promptly, since numerous observers were watching the approaching conjunction of the two planets which took place on October 9. **The nova reached its**

**maximum brightness—somewhat brighter than Jupiter—near the middle of October** and was still about as bright as Jupiter when it disappeared in the rays of the sun in November. Reappearing in the eastern sky at the beginning of January, 1605, it had become much fainter, equaling [the star] Antares in brightness. The decrease in brightness continued throughout the summer, and, when last seen by Kepler in October, 1605, the nova had reached fifth magnitude. By the spring of the following year it had become invisible to the naked eye. ... [Quoting Chinese accounts] It resembled a round ball. Its colour was a reddish yellow....<sup>103</sup>

Kepler's popular report, *De stella nova in pede Serpentarii*, published in 1606, associated his name with the NEW STAR. See Figure 26 for his star chart.<sup>104</sup> ('N' labels the nova.)

Figure 26: NEW STAR of 1604 - Depicted by Johannes Kepler  
Science, Industry and Business Library, The New York Public Library



*Scintillant* and *fulgura et colores varios* are the terms Kepler uses to describe the NEW STAR's appearance.<sup>105</sup> *Scintillo* is defined to mean “sparkle, glitter, glow, gleam and flash.” *Fulgura* is “a goddess who presided over lightening.”<sup>106</sup>

In a later work, *Harmonice mundi* of 1619, in the dedication to King James of England, Kepler tells the monarch about the earlier publication, *De stella nova in pede Serpentarii*, that it contained [emphasis made **bold**] “...a public prognostication on the NEW STAR which **burnt like a fiery coal...**”; as a modern English translation renders Kepler's words.<sup>107</sup> In the original Latin, he wrote: “...*quæ veluti Carbunculus arderet...*”<sup>108</sup> What did Kepler intend to recall to James's memory by use of this phrase fifteen years after the NEW STAR disappeared?

Assuming Kepler was referring literally to *a single coal on fire*, as translated by the modern editors, the reader of today who has never observed the burning of a lone coal in the darkness of night just cannot appreciate Kepler's allusion. Because of deforestation there was a shortage of wood by the Elizabethan age, referred to as the “Timber Famine.” Coal was used as fuel both for domestic purposes and manufacturing, and the mining of it was an important industry.<sup>109</sup> King James would know from personal observation the characteristics of a *single coal ablaze at night*.

However, there is another possible rendition, because *carbunculus* translates to either “a small coal” or “a reddish bright kind of precious stone.” And, *arderet* may connote more spectacular descriptive terms than “burnt,” such as: “blaze, flash, glow, sparkle, glisten, glitter and dazzle.”<sup>110</sup>

The *carbuncle* was the name given to a supernatural precious gem stone with the property of illumination. In his *History of Poetry*, Thomas Warton relates stories that use the carbuncle as a source of brilliant light:

- From a 1506 poem by Stephen Hawes, *The Passetyme of Pleasure, or the Historie of Graunde Amoure and La Bal Pucel*: “She invites Amoure to her Tower...and led into a hall with a golden roof, in the midst of which was a carbuncle of prodigious size, which illuminated the room.” In a footnote, Warton finds precedence for this metaphor in Chaucer, who described someone crowned with the costliest gems including: “...a fine carbuncle...the stone so cleare and bright...such light ysprange out of that stone.”<sup>111</sup>
- In a dissertation appended to his *History* describing the *Gesta Romanorum*, a collection of romantic inventions published in 1488, Warton abstracts the story of a person who descended into an underground palace through a concealed staircase: “He looked towards one corner, where he saw a polished carbuncle, which illuminated the whole room.”<sup>112</sup>
- To illustrate Arthur Golding’s 1565 translation of Ovid’s *Metamorphosis*, Warton quotes the first lines of the second book: “The princely palace of the Sun stood gorgeous to behold, / On stately pillars builded high, of yellow burnish gold; / Beset with sparkling carbuncles, that like to fire did shine,...”<sup>113</sup>

At the moment when Shakespeare adds ‘Horatio’s soliloquy’ about Caesar’s assassination to the draft of Q2 that was just about to go to the printer, the NEW STAR of 1604 was at its peak of brilliance, a disk in the sky, *glistering*, unmoving, as if it were a new FIXED STAR. The only similar event in the memory of his audience was the NEW STAR of 1572—both having the unusual non-COMET characteristics of remaining stationary, out-*glistering* any other FIXED STAR, and without a tail. Nonetheless, the event of 1572 was considered a COMET, because like all COMETS it eventually disappeared. The fate of the 1604 event would not be known at the time Q2 goes to press because it was new to the sky, but there would be no reason to believe it would

be permanent. COMETS always vanish. Both were special BLAZING STARS—very unusual and memorable COMETS.

Of all the COMETS ever *witnessed* by Shakespeare and his audience only two had the astounding characteristics of the events of 1572 and 1604. With this in mind the pun may be analyzed.

### Three COMETS for the King's Ghost

In Q2, Shakespeare uses *three* COMETS to herald the appearance of the ghost in its first two materializations on stage. For this analysis I rely on the ever-helpful *Three-Text Hamlet*.<sup>114</sup>

#### Ghost's First Materialization

The Q1 narrative begins with Marcellus and Horatio on the ramparts, skeptically listening to the report by the sentinel Bernardo about seeing a specter with the appearance of the dead king. Bernardo cues the ghost [emphasis made **bold**]:

2. Last night of al, when yonder **starre** that's west-ward from the pole, had made his course to **Illumine** that part of heauen. Where it now **burns**,

The bell then towling one.

*Enter Ghost.*<sup>115</sup>

A burning star that illuminates is, of course, a BLAZING STAR, a COMET. And a COMET is the expected prognosticator of disaster. There should be no surprise that *Hamlet* would make use of this convention to mark the tragedy that is about to unfold on stage. But this is not any run-of-the-mill COMET. Donald W. Olson, Marilyn S. Olson, and Russell L. Doescher argue persuasively that it is the *Stella Nova* of 1572.<sup>116</sup> Thirty-one years later Q1 is published. About this three decade *span of time* I offer a speculative argument based on four concepts:

- Thomas Nash in 1589 wrote of a famously established play named *Hamlet*.<sup>117</sup>
- The theme of a COMET prognosticating tragedy would be expected in *Hamlet*.
- A ‘current event’ is the instrument used to create a pun.
- The BURNING STAR illuminating the heavens is a metaphor for Tycho’s Nova of 1572.

Considered together, I speculate:

- A conventional and ‘mundane’ COMET was used in the earliest pre-Q1 version of *Hamlet*.
- Replaced in 1572 with a new allusion punning on an astounding ‘current event’ in the sky.
- Thereafter—with every subsequent playing of *Hamlet*—the *Wiser Sort* who *witnessed* the celestial event are reminded about the NEW STAR of 1572.
- Three decades later the ‘new’ metaphor is an expected convention in *Hamlet*.

What is *not* speculation is that Shakespeare retains the astronomical allusion to Tycho’s Nova in Q2 with words near-identical to Q1, as the *Three-Text Hamlet* demonstrates:

*Bar.* Last night of all,  
When yond same starre that westward from the pole,  
Has made his course t’illuminate that part of heauen  
Where it now burnes, *Marcellus* and my selfe  
The bell then beating one.

*Enter Ghost.*<sup>118</sup>

This metaphor for the Nova of 1572 is an important component of the set-up for the pun on the Nova of 1604.

#### Ghost’s Second Materialization

The readers of the just-off-the-press edition of Q2 or those attending the new version’s playing will be alert for any twists and turns Shakespeare has introduced. Again, I will summarize my argument by using the device of speculating on the reactions of educated Elizabethans of four centuries ago.

Horatio exclaims:<sup>119</sup>

*Hora.* A moth it is to trouble the mindes eye:

- What is William [Shakespeare] doing? This is when the ghost is supposed to materialize on stage for the second time [as in Q1]. Instead, this looks like the beginning of a new soliloquy. Everybody has been gossiping for some time about the revised *Hamlet* William is writing, and now they speculate if it will have a pun on the ‘current event’ in the sky. Could this be it?

In the most high and palmy state of Rome,  
A little ere the mightiest *Iulius* fell

- Oh—the assassination of Julius Caesar! William has Horatio allude to the dastardly regicide of Hamlet’s father by invoking the treacherous murder of Caesar.
- For what purpose does he introduce this innovation here, at this point in the plot? Each player on stage at this moment is supposed to be ignorant of the murder. After all, the ghost has yet to reveal to Hamlet the details of his father’s assassination. Why have Horatio make an allusion to regicide now? It is definitely out of sequence in the progression of the plot.
- But Caesar’s death is a Roman imperial murder. Is William going to rely on this the second of the ghost’s several materializations to introduce that old story of Caesar as a parallel to the murder of a royal Dane? How predictable and conventional. How hackneyed. How trite! The next line will of course have some sort of mundane reference to Caesar’s COMET.

The graues stood tennatlesse, and the sheeted dead  
Did squeake and gibber in the Roman streets

- What now? Graves abandoned and rotted corpses stumbling through the streets making frightening and horrible sounds! [*Zombies*, to use contemporary terminology.]
- Great pun on the just ended plague that killed Londoners by the tens of thousands<sup>120</sup> and delayed James’s coronation ceremony until it abated. It invokes the horrible memory of corpses strewn in the streets wrapped in ‘winding sheets’ waiting to be piled high into the overloaded groaning and squeaking carts—will my Lord Mayor’s servants ever get around to greasing those axle-trees!—of the body-collectors who call aloud *bring out your dead* mixed with the wails of grieving families casting out the contagion-riddled bodies of their dearly beloved to be dumped into the grave pits. The pun is cleverly made by *reversing the process*—to make it as if the corpses voluntarily vacate their graves to return to wander about on London’s streets! What a fabulous prognosticator for all the killing in *Hamlet*! No wonder William is such a genius!
- But where is the COMET that signals Caesar’s murder? It will not do at all to introduce the death of Caesar without *the* COMET!

As stares with trains of fier,...

- Finally, the COMET—*Wait!*—Multiple COMETS? Julius Caesar only had *one* COMET! At King James's coronation parade a year ago the very last triumphant arch portrayed just *one* COMET. Ben [Jonson] got it right. What is William doing? He *knows* there was only one COMET. Aha, this then must be the pun! How to understand it? Do the analysis.
- The mandatory COMET is mentioned in its proper place when the king's ghost appears on stage for the *first* time. Everyone knows that it alludes to that very special *glistering* COMET of 1572 that we all recall seeing in our childhood. It has always been the convention in *Hamlet* for this unique COMET to introduce the ghost's first materialization; as I remember seeing it played so often—and even read [in Q1]. In this revision [Q2] the *original* cue remains in its expected place. Therefore, the new *second* reference cannot be to the same COMET of 1572.
- Got it! The ghost's *second* materialization on stage is now cued with an allusion to that new *second* special COMET which has just materialized—the 'current event' now *glistering* overhead. So that's the reason for inserting a new soliloquy at this point in the new version [Q2]!
- And of course, clever William puts his special twist on the pun. When he refers to BLAZING STARS in the plural he is associating the COMET that is now in the sky with the COMET of 1572 that always introduces the ghost, because they both have the same characteristics of appearing to be *glistering* NEW STARS. Leave it to William to come up with that very special fillip!
- Two new puns, one after the other—*Zombies* and *multiple* BLAZING STARS—all prognosticating death—with three(!) COMETS all told: one in the first materialization; and reference to two in the second.

The chuckle elicited, the audience entertained, Shakespeare closes the soliloquy by referencing all sorts of additional prognosticators to cue the ghost's second materialization:

... and dewes of blood  
 Disasters in the sunne; and the moist starre,  
 Vpon whose influence *Neptunes* Empier stands,  
 Was sicke almost to doomesday with eclipse.  
 And euen like precurse of feare euent  
 As harbindgers preceeding still the fates  
 And prologue to the *Omen* comming on  
 Haue heauen and earth together demonstrated  
 Vnto our Climates and countrymen.  
*Enter Ghost.*

- I would wager that somewhere further along in this new version [Q2] William will even pun on that idiotic Copernican cosmology that is now so argued about since this special COMET appeared.



## 7. CONCLUSION

Puns are ephemeral, dependent upon the context of an event in a fleeting moment in time. The challenge is to capture a cultural ‘context’ that is now four centuries long gone which Shakespeare exploited to entertain an audience that appreciated puns. This requires a plausible reconstruction in the mind of the modern reader of what an educated Elizabethan knew about the Aristotelian and Copernican cosmologies at the very end of 1604 when a supernova appeared in the sky just as the manuscript of *Hamlet Q2* was about to be sent to the press.

Without insight into the expectation of Shakespeare’s educated audience the two phrases—*mortal coil* and *stars with trains of fire*—cannot be understood. The profound contemplation of death implied by *mortal coil* is nothing other than a pun on Copernicus. The imagery of a meteor shower that the modern reader would associate with *stars with trains of fire* is actually a metaphor for Kepler’s Nova of 1604.

## APPENDIX A: Twelve Scholars Explain *Coil*

**1. 1859 - Nares** provides two definitions. Note well Nares' ambivalence as he resorts to the qualification of "Here it seems to mean" in the *Hamlet* definition:<sup>121</sup>

*Tempest*: Noise; tumult; difficulty. Of very uncertain derivation.

*Hamlet*: Here it seems to mean impediment, obstruction.

**2. 1866 -** The punctuation used by **Halliwell-Phillips** is of particular importance. He, like Nares, also brings two usages: one for *Tempest*, the other for *Hamlet*. The definition for *Tempest* concludes with a *period* as the punctuation mark. In contrast, the *Hamlet* definition terminates with a *question mark*. By resorting to the *question mark* Halliwell-Phillips has most emphatically emphasized his unease with the standard interpretation of the meaning of the word when in *Hamlet*.<sup>122</sup>

*Tempest*: Noise; tumult.

*Hamlet*: Impediment; obstruction?

**3. 1867 – Dyce** understands the *Hamlet* usage to be the same in *The Two Noble Kinsman*. Dyce establishes two categories. Dyce relies on quoting Caldecott as his authority for the *Hamlet* and *Kinsman* definitions, which introduces the concept of *entwinement* and *wrapping*.<sup>123</sup>

*Verona, Errors, Ado, Midsummer, All's, John, Titus, Romeo* and *Timon*: bustle, stir, tumult, turmoil.

*Hamlet* and *The Two Noble Kinsman*: Quoting Caldecott—*coil* is here used in each of its senses, that of turmoil or bustle, and that which entwines or wraps around.

**4. 1877 – Furness's** footnoted definition for *coil* in *Hamlet* is presented in full with orthography maintained, but enhanced with the enumeration of the eighteen commentators he quotes:<sup>124</sup>

1. WARBURTON: Turmoil, bustle.

2. HEATH: The incumbrance of this mortal body.

3. STEEVENS: Compare *A Dofull Discours of Two Strangers, &c.*, published by Churchyard, among his *Chippes*, 1575: 'Yea, shaking off this sinfull soyle Me thincke in cloudes, I see,' &c.

4-6. M. MASON ... agrees with HEATH in referring this to the body, this 'covering of flesh,' and is persuaded that we should read 'mortal *spoil*,' which is the same word as the slough which the snake casts every year. In sense it means the same as 'the case of flesh,' in *Bonduca* [IV, iv, p. 82, Beau. & Fl. *Works*, ed. DYCE]; and again, 'a separation Betwixt this spirit and the case of the flesh.'—*The Elder Brother* [IV, iii, p. 262, Beau. & Fl. *Works*, ed. Dyce]: but the most complete parallel is 'this muddy vesture of decay.'—*Mer. of Ven.* V, I, 64.

7. CALDECOTT: It is here used in each of its senses: turmoil, and that which entwines or wraps around. Snakes generally lie like the coils of ropes; and, it is conceived, that an

allusion is here had to the struggle which the animal is obliged to make in casting his slough.

8. HUNTER (ii, 240): He was thinking of the *coil* of a rope. With this expression 'shuffled off' better coheres.

9. SINGER: It is remarkable that under *garbuglio*, which corresponds in Italian to our 'coil,' Florio has a 'pecke of troubles,' of which Shakespeare's 'sea of troubles' may be only an aggrandized idea.

10. ELZE: With what reason can turmoil or noise be termed mortal? And how can we shuffle off a mortal noise? We are convinced that under 'coil' is concealed an error which we can remedy by an almost imperceptible change, if instead of 'coil' we read *vail*. *Vail* means a covering, an integument, and our body is the mortal covering or integument which we must shuffle off in order to enter on the life beyond. In Botany *vail* is the envelope, the chalypter of mosses, which enfolds the fructifying organs and which is burst by them, and it is not impossible that it was used generally for the envelope of buds. We do not venture to assert that Sh. knew this meaning of the word, but we know with what keen looks he must have examined nature. Beyond a doubt, *clay* would be better, but it would harmonise less with the received text. ELZE (*Shakespeare-Jahrbuch*, vol. ii, p. 362) advocates the substitution of *soil* for 'coil,' which word he found in the *Dolfull Discours*, quoted by STEEVENS. ELZE supports his conjecture very ably, but it is needless. 'Shuffle' decides; a *coil* may be said to be *shuffled* off, but *soil* would be *shaken* off.

11-12. HUDSON: As WORDSWORTH has it: 'the fretful stir unprofitable, and the fever of the world.' In *N. & Qu.* 23 Feb. '56,

13-14. INGLEBY started the question of how far the popular interpretation of 'coil,' as *the body*, is justified; the discussion was continued by 'X.' on the 15 March following, who maintained that in every instance where the word is used by Sh. It means *turmoil*, *tumult*; and in a second communication to the same journal on the 11<sup>th</sup> Oct., the same correspondent pertinently asks whether the contrast be not intended between 'coil' and 'quietus.' INGLEBY replied (8 Nov. '56) that the interpretation of *body* for 'coil' was a popular error, not his, and that it perhaps arose, as suggested to him by a correspondent, from a confusion on the part of the public between the present passage and *Colossians*, iii, 9, with a reference also to 2 *Corinthians*, v, 1-5.

15. H. T. RILEY (8 Nov. '56, also) has no doubt that 'coil' refers to the *body*, and that it was suggested by *Romans*, vii, 24.

16. The coil received its quietus on 18 Sept. '58, by 'A. M. of GREENOCK,' who cites a derivation of the word from the Gaelic *cochul*, meaning the scaly integument which clothes the lower limbs of a mermaid [!].

17-18. INGLEBY, however, in his excellent *Sh. Hermeneutics* (p. 88, footnote), says that the analogies are too strong in favor of the 'mortal coil' being what FLETCHER, in *Bonduca*, call the 'case of the flesh.'

*Furness's editorial choice:*

CALDECOTT's interpretation, that 'coil' is used in both senses, seems to me the true one. Ed.

At the very end of the footnote, exercising his prerogative as editor, Furness selects the explanation offered by Caldecott as the most probable. Note well the terminology used, because his endorsement of Caldecott's explanation is far from enthusiastic or absolute, as he resorts to the tepid phrase "...seems to me...." After all his years of scholarly research, Furness hesitates to declare definitively that Caldecott is correct.

Furness's surviving *Hamlet* notebooks, manuscripts and research files were reviewed.<sup>125</sup> No unpublished material was found which would expand upon Furness's compilation of *mortal coil* definitions.

**5. 1887 – Mackay** finds Shakespeare uses *coil* in two different senses. He argues for the Celtic origin of the word *coil*. Of importance is Mackay's discomfort with Shakespeare's use of the compound two-word metaphor *mortal coil* in a sentence with the words *shuffle off*. He states: "*shuffle off* is scarcely a phrase that aptly accords with the metaphor." Mackay does not offer any reason or theory for perceiving the sentence structure to be awkward.<sup>126</sup>

*Other plays*: noise, uproar, or disturbance.

*Hamlet*: comparing the body to the mortal husk or shell of the immortal spirit; which Death enables us to shuffle off, as the grub shuffles off the husk and shell of its cocoon, and soars aloft in the upper air on wings, the emblem of the soul.

**6. 1902 – Schmidt** also has two categories:<sup>127</sup>

*Tempest, Verona, Errors, Ado, Midsummer, All's, John, Titus and Timons*: turmoil, bustle, confusion.

*Hamlet*: this turmoil of mortality, this troublesome life.

**7. 1919** – For a glossary, **Onions**, an editor of the *Oxford English Dictionary (OED)*, extracted from the first version of the *OED* all definitions related to Shakespeare. He also differentiates between the *coil* in *Hamlet* and its usage in other plays, but he does so differently than do Furness and Dyce:<sup>128</sup>

*Errors*: noise, disturbance.

*Ado and John*: fuss, to-do.

*Hamlet*: bustle or turmoil of this mortal life.

**8. 1922 – Cunliffe's** definitions are similar to Onions.<sup>129</sup>

*Tempest, Ado and Timons*: turmoil, bustle, stir.

*John and All's*: fuss, ado.

*Hamlet*: the turmoil of this life.

**9. 1936 - Kittredge**<sup>130</sup> also recognized there was something different. In the glossary to his 1936 edition of *Shakespeare's Works*, Kittredge defines *coil* as used throughout the Works to have one meaning, *excepting Hamlet* which had a different meaning: "Tumult, disturbance (in *Hamlet* with a play on the sense of 'entanglement')." <sup>131</sup> Thirty years earlier, at a 1906 lecture,

Kittredge defined *coil* as used in *Hamlet* to mean: "[Its] common meaning & also meant turmoil, get rid of entangling turmoil of this life..."<sup>132</sup>

**10. 1996 – Shewmaker** proposes *four* different definitions.<sup>133</sup>

*Timon*: confusion; turmoil; fuss or hubbub.

*All's*: fussed over.

*Ado*: great to-do or rumpus.

*Hamlet*: the turbulence of human existence.

**11. 2002 - The Crystals** also perceived the need to treat *Hamlet* differently from the other plays: They specify explicitly that their explanation for *Hamlet* is for "Hamlet alone."<sup>134</sup>

*Other plays*: turmoil, disturbance, fuss.

*Hamlet*: the bustle of life.

**12. 2006 - Thomson and Taylor** understand the phrase *mortal coil* of *Hamlet* to be different and apart from the common usage of *coil* in the other plays. They write [emphasis made **bold**], "...the phrase [referring to *mortal coil*] has been **coined** by Shakespeare."<sup>135</sup> Thomson and Taylor perceive the usage in *Hamlet* to be something unique.

## APPENDIX B: Survey of 160 Editions Defining *Coil* in *Hamlet*

The literature on the soliloquy is extensive. In 1987, Clemen estimated [emphasis made **bold**]:

Confronted with a text apparently lacking in logical and syntactic cohesion, most of the numerous (**several hundred!**) interpretations of this soliloquy have tried to supply the missing links, to clarify the sense, to give precision to what has been merely hinted at."<sup>A</sup>

Today, the quantity must be vastly increased. No attempt was made to search out every interpretation of the soliloquy.<sup>B</sup>

Instead, a survey was made of all readily accessible printed editions and analyses of *Hamlet* to understand how Shakespearean editors specifically define *coil* in the context of the soliloquy. The focus of the survey is only on one word: *coil*. The definitions are listed in chronological order.<sup>C</sup>

Additional editorial definitions may be found at [www.hamletworks.org](http://www.hamletworks.org).<sup>D</sup>

Perusal of this survey will demonstrate that none of the editorial explanations define *coil* as a metaphor for the Copernican *New Astronomy*.<sup>E</sup>

There is one definition with an astronomical component, but it has no relationship to the metaphor advanced by this essay, although it comes tantalizingly close. See entry: **1969 Charney**. Charney perceives "concentric coils of a ship's rope" to represent the *Globe* of the world. In contrast, this essay advances the argument that the *coil* is the *spiraling track* a person makes in a Copernican universe while standing on the surface of the *Globe*—as the *Globe* spins on its axis and orbits the Sun.

Note: The citations footnoted in this Appendix B do not appear in the bibliography.

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<sup>A</sup> Wolfgang Clemen, translated by Charity Scott Stokes, *Shakespeare's Soliloquies* (London: Methuen, 1987), 134.

<sup>B</sup> Irving T. Richards, "The Meaning of Hamlet's Soliloquy," *PMLA* LXVIII pp.741-766 [Volume 48, No. 3, Sep 1933, Article XXXVIII (38)]. Curiously, where one might expect to find *coil* analyzed, it is not. For example, Richards' analysis of the Soliloquy does not acknowledge an astronomical metaphor in the word *coil*, nor does he even analyze the word. Possibly Richards never considered the effect of the nova of 1604.

<sup>C</sup> For a history of the early editorialists of Shakespeare and their methodologies of accumulating source references for their comments, see: Arthur Sherbo, *The Birth of Shakespeare studies: Commentators from Rowe (1709) to Boswell-Malone (1821)* (East Lansing, MI: Colleagues Press, 1986).

<sup>D</sup> For an explanation of the reason for establishing this website resource, see: Bernice W. Kliman, "Print and Electronic Editions Inspired by the New Variorum *Hamlet* Project," *Shakespeare Survey*, Vol. 59 (2006) 157-167.

<sup>E</sup> Note: Some editors define just the word *coil*, others *mortal coil*, while others define the entire phrase *shuffle off this mortal coil*. The context is obvious from the definition.

- |                            |                             |
|----------------------------|-----------------------------|
| (1) 1603 Greg              | No definition. <sup>A</sup> |
| (2) 1603 <i>Huntington</i> | No definition. <sup>B</sup> |
| (3) 1619 <i>Smethwick</i>  | No definition. <sup>C</sup> |
| (4) 1623 <i>Jaggard</i>    | No definition. <sup>D</sup> |
| (5) 1632 <i>Allott</i>     | No definition. <sup>E</sup> |
| (6) 1637 <i>Smethwicke</i> | No definition. <sup>F</sup> |
| (7) 1663 <i>Chetwinde</i>  | No definition. <sup>G</sup> |
| (8) 1685 <i>Roberts</i>    | No definition. <sup>H</sup> |
| (9) 1703 <i>Wellington</i> | No definition. <sup>I</sup> |

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<sup>A</sup> W. W. Greg, ed., *Hamlet, First Quarto, 1603 (reproduced in Collotype Facsimile)*, Shakespeare Quarto Facsimiles No. 7, with an introductory note by W. W. Greg (London: The Shakespeare Association & Sidgwick and Jackson, Limited, 1951).

<sup>B</sup> Henry E. Huntington Library, publisher, *Shakespeare's Hamlet, The First Quarto 1603, Reproduced in facsimile from the copy in the Henry E. Huntington Library* (Cambridge MA: Harvard University Press, 1931).

<sup>C</sup> John Smethwicke, printer, *The Tragedy of Hamlet Prince of Denmarke Newly Imprinted and Inlarged, according to the true and perfect Copy laftly Printed* (London: Printed for W.S. by John Smethwicke, 1619?). This edition was printed without a date. Scholarship assigns the publication to 1619 and ranks it as the *fourth* edition (Q4). The copy available in the Rare Books Division of the New York Public Library was reviewed and found free of marginalia. See: Henrietta C. Bartlett and Alfred W. Pollard, *A Census of Shakespeare's Plays in Quarto 1594-1709* (New Haven: Yale University Press, first published 1916, revised and extended edition, 1939). Bartlett and Pollard identify and describe the ten/eleven *Hamlet* Quarto editions published in the seventeenth century.

<sup>D</sup> Isaac Jaggard, publisher, *Mr. William Shakespeares Comedies, Histories, & Tragedies, Published according to the True Originall Copies*, (London: Printed for Ifaac Jaggard, and Ed. Blount, 1623). The New York Public Library has six copies of the First Folio. Five were available for study (one was in conservation) and were searched for marginalia pertinent to *mortal coil*. None were discovered. Four in the Rare Books Division and one in the Berg Collection. For histories of the printing of the First Folio see the introductory chapter to: Sidney Lee, *Shakespeares Comedies, Histories Tragedies; A Supplement to the Reproduction of the First Folio Edition (1623) from the Chatsworth Copy in the Possession of the Duke of Devonshire, K. G. Containing a Census of Extant Copies with Some Account of their History and Condition* (Oxford: Clarendon Press, 1902). Also the introductory chapters in: Charlton Hinman, *The Norton Facsimile: The First Folio of Shakespeare* (New York: W. W. Norton & Co., 1968).

<sup>E</sup> Robert Allott, publisher, *Mr. William Shakespeares Comedies, Histories and Tragedies. Published to the true Originall Copies*, The Second Impression, (London: Printed by Tho. Cotes, for Robert Allot, 1632). The New York Public Library has ten copies of the Second Folio. All were reviewed for marginalia pertinent to *mortal coil*. None were discovered. Nine are in the Rare Books Division and one in the Berg Collection.

<sup>F</sup> John Smethwicke, publisher., *The Tragedy of Hamlet Prince of Denmark. Newly imprinted and enlarged, according to the true and perfect Copy laft printed* (London: R. Young for John Smethwicke, 1637). Rare Books Division, The New York Public Library.

<sup>G</sup> Philip Chetwinde, printer, *Mr. William Shakespeares Comedies, Histories, and Tragedies. Published according to the true Originl Copies*. The Third Impression., (London: Printed for Philip Chetwinde, 1663). The New York Public Library has four copies of the Third Folio. All were reviewed for marginalia pertinent to *mortal coil*. None were discovered. Three are in the Rare Books Division and one in the Berg Collection.

<sup>H</sup> Robert Roberts, printer, *Mr. William Shakepear's Comedies, Histories, and Tragedies. Published according to the true Originall Copies. Unto which is added, Seven Plays, Never before Printed in Folio*. The Fourth Edition. (London, Printed for H. Herringman, E. Brewfster, and R. Bentley, at the Anchor in the New Exchange, the Crane in St. Pauls Church-Yard, and in Ruffel-Street Covent-Garden, 1685.) The New York Public Library has five copies of the Fourth Folio. All were reviewed for marginalia pertinent to *mortal coil*. None were discovered. Four are in the Rare Books Division and one in the Berg Collection.

<sup>I</sup> Richard Wellington, ed., *The Tragedy of Hamlet Prince of Denmark As it is now Acted by Her Majesties Servant* (London: Printed for Rich. Wellington, at the Dolphin and Crown in Pauls Church-Yard, and E. Rumball in Covent-Garden, 1703). Rare Books Division, The New York Public Library.

(10) 1709 Rowe	No definition. <sup>A</sup>
(11) 1710 S. N.	No definition. <sup>B</sup>
(12) 1723 Pope	No definition. <sup>C</sup>
(13) 1726 Theobald	No definition. <sup>D</sup>
(14) 1746 Upton	No definition. <sup>E</sup>
<b>(15) 1744 Hanmer</b>	<b>Bustle, tumult.<sup>F</sup></b>
<b>(16) 1747 Warburton</b>	<b>Turmoil, bustle.<sup>G</sup></b>
(17) 1748 Upton	No definition. <sup>H</sup>
(18) 1750 Edwards	No definition. <sup>I</sup>
(19) 1752 Dodd.	No definition. <sup>J</sup>
(20) 1757 Dodd.	No definition. <sup>K</sup>

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<sup>A</sup> Nicholas Rowe, ed., *The Works of Mr. William Shakespear* Volume the Fifth *Hamlet*, (London: Printed for Jacob Tonson, 1709). Berg Collection, The New York Public Library. Also, reprinted, New York: AMS Press, 1967.

<sup>B</sup> S. N., ed., *The Works of Mr. William Shakespear* Volume the Seventh. (London: Printed for E. Curll at the *Dial* and *Bible* against St. *Dunstan's* [sic] Church, and E. Sanger at the Post-House at the *Middle-Temple Gate*, 1710). The editor is identified only by the initials "S. N." This is from the seventh volume of a set in the Berg Collection of The New York Public Library. The first six volumes were edited by Nicholas Rowe and printed for Jacob Tonson in 1709.

<sup>C</sup> Alexander Pope, ed., *The Works of Mr. William Shakespear: Volume the Sixth, Collated and Corrected by the former Editions* (London: Printed for Jacob Tonson, 1723). In The New York Public Library.

<sup>D</sup> Lewis Theobald, *Shakespeare Restored: or, A specimen of the Many Errors, as Well Committed, as Unamended, by Mr. Pope, in his Late Edition of this Poet...* (London: printed for R. Francklin, 1726). Berg Collection, The New York Public Library. Also, reprinted New York: AMS Press, 1970.

<sup>E</sup> John Upton, *Critical Observations on Shakespeare*, (London: Printed for G. Hawkins, 1746).

<sup>F</sup> **Thomas Hanmer**, ed., *The Works of Shakespear: in six volumes: carefully revised and corrected by the former editions and adorned with sculptures designed and executed by the best hands*, (Oxford: Printed at the Theatre, 1743-1744). Volume the sixth, consisting of tragedies, published in 1744, has the Glossary. The title page of the Glossary (sig. Zzz3r) declares the rules that guided Hanmer in selecting its entries: "A Glossary Explaining the Obsolete and difficult Words in the Plays of Shakespear. Note. *That when a word is used but once, or in a sense which is singular; the Volume and the Page are noted down, where the same is to be found. And when a Word is not properly English, but borrowed from a foreign Language, and not familiarized by Use into our own; the original word in such foreign Language is set down.*" Within the Glossary (sig. Zzz4r), "COIL" is defined as "bustle, tumult" and without a volume or page number affixed to the definition. Therefore, to Hanmer, the definition applies to every instance that 'coil' appears throughout the plays—it is does not have a unique 'sense' in *Hamlet's* "mortal coil." Within the soliloquy itself (volume 6, *Hamlet*, pages 370-371 (sig. Aaa1v||Aaa2r) the only footnote deals with "sea of troubles." Folger Shakespeare Library. call number PR2752 1744 copy 1 Sh. Col.

<sup>G</sup> **William Warburton**, ed., *The Works of Shakespeare: Volume the Eighth, Hamlet*, (London: Printed for J. and P. Knapton, 1747), 182. Warburton incorporated Pope's edition in this work. Contains prefaces by Warburton and Pope. This definition "turmoil, bustle" is specifically given to "mortal coil" and appears as a footnote in the *Hamlet* soliloquy. See Figure 12, page 31 of this essay. Archives and Special Collections, Morris Raphael Cohen Library, The City College of New York, City University of New York, call number #YFW W25.

<sup>H</sup> John Upton, *Critical Observations on Shakespeare*, Second Edition, *with Alterations and Addition*, (London: Printed for G. Hawkins, 1748).

<sup>I</sup> Thomas Edwards, *The Canons of Criticism, and Glossary, Being a Supplement to Mr. Warburton's Edition of Shakespear*, Third Edition, (London: Printed for C. Bathurst, 1750).

<sup>J</sup> William Dodd, *The Beauties of Shakespeare, in two volumes*, vol. 1, *Hamlet*. London: Printed for T. Waller, 1752, "vol 1, *Hamlet*," 239.

<sup>K</sup> William Dodd, *The Beauties of Shakespeare, in two volumes*, vol. 1, *Hamlet, the second edition with additions*. London: Printed for T. Waller, 1757, 249-250.



(21)	1757	Theobald	No definition. <sup>A</sup>
(22)	1758	Mendelssohn	Wenn einst dieses Fleisch vermodert. <sup>B</sup>
(23)	1765	Edwards	No definition. <sup>C</sup>
(24)	1765	Heath	<i>This mortal coil</i> I should imagine means, the incumbrance of this mortal coil. <sup>D</sup>
(25)	1765	Johnson	Turmoil, bustle [attributed to Warburton]. <sup>E</sup>
(26)	1768	Capell	No definition. <sup>F</sup>
(27)	1768	Rowe (?)	No definition. <sup>G</sup>
(28)	1768	Pope	No definition. <sup>H</sup>
(29)	1770	Hanmer	Bustle, tumult. <sup>I</sup>
(30)	1773	Jennens	No definition. <sup>J</sup>
(31)	1774	Capell	Ado, Stir, Bustle. <sup>K</sup>
(32)	1778	Steevens	Turmoil, bustle [attributed to Warburton]. <sup>L</sup>

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<sup>A</sup> Lewis Theobald, ed., *The Works of Shakespeare: in Eight Volumes: Collated with the Oldest Copies, and Corrected, with Notes, Explanatory, and Critical by Mr. Theobald*, vol. 8 *Hamlet* (London: Printed for C. Hitch et. al., 1757).

<sup>B</sup> Mendelssohn's definition: Paul Salisbury Conklin, *A History of Hamlet Criticism, 1601-1821*, (New York: Humanities Press, 1957), 97n. Although Conklin refers to the soliloquy several times in his history, there is only one definition of *mortal coil*. In the chapter on "Hamlet in German Criticism" Conklin gives the translation by Mendelssohn of "When we have shuffl'd off this mortal coil" as "wenn einst dieses Fleisch vermodert." Conklin cites: *Gesammelte Schriften* (Berlin, 1929-32), I, 202. Jacoby, *op. cit.* 118-19.

<sup>C</sup> Thomas Edwards, *The Canons of Criticism, and Glossary, Being a Supplement to Mr. Warburton's Edition of Shakespear*, Seventh Edition, (London: Printed for C. Bathurst, 1765, reprinted London: Frank Cass & Co., 1970).

<sup>D</sup> Benjamin Heath (Anonymous, by), *A Revisal of Shakespear's Tex, wherein The Alterations introduced into it by the more modern Editors and Critics, are particularly considered* (London: W. Johnston, 1765), 537.

<sup>E</sup> Samuel Johnson, ed., *The Plays of William Shakespeare, with the Corrections and Illustrations of Various Commentators; To Which are Added Notes by Sam. Johnson*, Volume the Eighth, *Hamlet*, (London: Printed for J. and R. Tonson, et. al., 1765), 208.

<sup>F</sup> Edward Capell, ed., *The Works of Shakespeare*, volume the tenth, *Hamlet* (London: Printed for J. and R. Tonson, 1768, reprinted NY: AMS, 1968), 59. Definition is in the glossary, published in 1774.

<sup>G</sup> Nicholas Rowe, ed. (?), *Mr. William Shakespeare, His Comedies, Histories, and Tragedies, Set Out by Himself in Quarto, or by the Players his Fellows in Folio, and now Faithfully Republish'd from those Editions, in Ten Volumes Octavo*; vol. 10, *Hamlet* (London: Printed by Dryden Leach, for J. and R. Tonson in the Strand, 1768). Title page with editor's identification is missing.

<sup>H</sup> Alexander Pope, ed., *The Works of Shakespear; in Nine Volumes. With Notes Selected from the Best Authors, Explanatory, and Critical*. Volume the Ninth, *Hamlet* (Birmingham: Printed and sold by Robert Martin [etc.], 1768), 270.

<sup>I</sup> Thomas Hanmer, ed., *The Works of William Shakespeare*, Volume the Sixth *Consisting of the Tragedies* (Oxford: Clarendon-Press, 1770), Glossary. This is the second edition.

<sup>J</sup> The Charles Jennens's collation of previously published editions of *Hamlet*. William Shakespeare, *Hamlet. Prince of Denmark. A Tragedy. By William Shakespeare. Collated with the Old and Modern Editions* (London: Printed by W. Bower and J. Nichols and sold by W. Owen, between the Temple-Gates, Fleet-Street, 1773), 88.

<sup>K</sup> Edward Capell, *Notes and Various Readings to Shakespeare*, part the first... volume the first (London, Henry Hughs, 1774), "Glossary," 13.

<sup>L</sup> George Steevens, ed., *The Plays of William Shakespeare in Ten Volumes, with Corrections and Illustrations of Various Commentators*, Volume the Tenth, *Hamlet* (London: Printed for C. Bathurst, et. al., 1778), 276.

- (33) 1786 Rann                    These earthly incumbrances;—the shackles, which now bind us——mortal spoil [*sic*]—this *slough of flesh*.<sup>A</sup>
- (34) 1787 Becket                 No definition.<sup>B</sup>
- (35) 1790 Ayscough             Turmoil, bustle.<sup>C</sup>
- (36) 1790 Malone                turmoil, bustle [attributed to Warburton]. A passage resembling this, occurs in a poem entitled A Dofull Discours of Two Strangers, a lady and a knight, published by Churchyard, among his Chippes, 1575: [Quoting Steevens.] "Yea, shaking off this sinfull soyle, /--Me "Thincke in clouds I see, / "Among the perfite chose lambs,--A place / "Prepared for mee." Steevens.<sup>D</sup>
- (37) 1793 Reed                    Turmoil, bustle [attributed to Warburton].<sup>E</sup>
- (38) 1796 Bioren                 Bustle, tumult, turmoil.<sup>F</sup>
- (39) 1805 Chalmers             Turmoil, bustle.<sup>G</sup>
- (40) 1805 Twiss                 No definition.<sup>H</sup>
- (41) 1813 Rowe (?)                Turmoil, bustle [attributed to Warburton].<sup>I</sup>

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<sup>A</sup> Joseph Rann, ed., *The Dramatic Works of Shakspeare, in six volumes; with notes by Joseph Rann*, vol. 6, *Hamlet* (Oxford: Clarendon Press, 1786-1794), 316.

<sup>B</sup> Andrew Becket, ed., *A Concordance to Shakespeare: Suited to all the Editions, in which the Distinguished and Parallel Passages in the Plays of that Justly Admired Writer are Methodically Arranged. To Which are added, Three Hundred Notes and Illustrations, Entirely New* (London: Printed for G. G. J. and J. Robinson, 1787, reprint NY: AMS Press, 1970).

<sup>C</sup> Samuel Ayscough, ed., *The Dramatic Works of William Shakespeare: with Explanatory Notes. To Which is Added a Copious Index to the Remarkable Passages and Words, by Samuel Ayscough ...* vol. II, *Hamlet* (London: J. Stockdale et. al., 1807 first edition 1790), 1017.

<sup>D</sup> Edmond Malone, ed., *The Plays and Poems of William Shakspeare, Volume the Ninth, Hamlet*, (London: H. Baldwin, 1790), 288. The *Hamlet* Appendix, in "Volume the Tenth," 684-686, does not address "coil." In 1796 Malone published a work about the counterfeiting of certain papers attributed to Shakespeare. At the end of the book Malone prints a public communication to his readership describing the details of his attempts to track down "persons possessed of ancient papers" such as may have descended to "residuary legatees" who may unknowingly have Shakespeare holographic material. See: Edmond Malone, *An Inquiry into the Authenticity of Certain Miscellaneous Papers and Legal Instruments, Published Dec. 24, M DCC XCV. and Attributed to Shakspeare, Queen Elizabeth, and Henry, Earl of Southampton*, (London: H. Baldwin, 1796), 426-428.

<sup>E</sup> Isaac Reed, ed., *The Plays of William Shakespeare: In fifteen volumes, with the Corrections and Illustrations of various Commentators, to which are added, Notes by Samuel Johnson and George Stevens*, the fourth edition (*with Revised Glossarial Index*) by the Editor of Dodsley's *Collection of Old Plays*, vol. 15, *Hamlet* (London: Printed for T. Longman, et. al., 1793), 158.

<sup>F</sup> Bioren & Madan, printer, *The Plays and Poems of Shakespeare: corrected from the latest and best London editions, with notes, by Samuel Johnson, L.L.D. To which are added, a glossary and the life of the author, embellished with a striking likeness from the collection of his grace the Duke of Chandos*, First American edition, *Glossary* Vol. I, (Philadelphia: Bioren & Madan, 1796), xxviii.

<sup>G</sup> Alexander Chalmers, ed., *The Plays of William Shakespeare, Accurately Printed from the Text of the Corrected Copy Left by the late George Steevens, Esq. with a Selection of Explanatory and Historical Notes from the Most Eminent Commentators; A History of the Stage, a Life of Shakspeare, etc., in Nine Volumes*, volume IX, *Hamlet* (London: Printed for F.C. & J. Rivington et. al., 1805), 193.

<sup>H</sup> Francis Twiss, *A Complete Verbal Index to the Plays of Shakespeare: Adapted to all the Editions. Comprehending every substantive adjective, verb, participle, and adverb, used by Shakspeare; with a distinct reference to every individual passage in which each word occurs*, vol. 1 (London: T. Bensley, 1805), 178.

<sup>I</sup> Nicholas Rowe (?) ed., *The Plays of William Shakespeare; in Twenty-One Volumes, with the Corrections and Illustrations of Various Commentators, to Which are Added Notes*. Vol. 18, *Hamlet* (London: printed for J. Nichols & Son, et. al. , 1813, 6th edition), 169.

- (42) 1814 *Coleridge* No definition.<sup>A</sup>  
 (43) 1814 Tegg No definition.<sup>B</sup>  
 (44) 1815 Becket Turmoil, bustle [attributed to Warburton]. "When we have shuffled off this mortal coil," i.e. when we have shaken off the shackles, which at present bind or hold us. *Coil* is used in allusion to the coiling or strengthening of a rope by winding it in the form of a ring, whence *coil* is fether [Becket].<sup>C</sup>
- (45) 1819 Hazlitt No definition.<sup>D</sup>  
 (46) 1821 Malone Turmoil, bustle [attributed to Warburton]. A passage resembling this, occurs in a poem entitled A Dofull Discours of Two Strangers, a lady and a knight, published by Churchyard, among his Chippes, 1575: [Quoting Steevens.] "Yea, shaking off this sinfull soyle,--Me / "Thincke in clouds I see, / "Among the perfite chose lambs,--A place / "Prepared for mee." Steevens.<sup>E</sup>
- (47) 1821 Reed Turmoil, bustle. Warburton.<sup>F</sup>  
 (48) 1821 Rowe Stir, bustle.<sup>G</sup>  
 (49) 1823 *Chiswick* Bustle, stir.<sup>H</sup>  
 (50) 1825 Pickering Bustle, stir.<sup>I</sup>  
 (51) 1826 Pickering Bustle, stir.<sup>J</sup>  
 (52) 1833 Valpy Stir, bustle.<sup>K</sup>

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<sup>A</sup> *Coleridge*: Thomas Middleton Raysor ed., *Coleridge's Shakespearean Criticism*, Second Edition, Two Vol., (London: Dent, 1960, last reprinted 1974), vol. 1, Marginalia & Notes, Hamlet, 16-39; and vol. 2, The Lectures at Bristol 1813-1814, Lecture III, Hamlet, 223-226.

<sup>B</sup> Thomas Tegg, publisher, *The Dramatic Works of William Shakespeare*, vol. X, *Hamlet* (London: T. Tegg, 1814).

<sup>C</sup> Andrew Becket, *Shakspeare's Himself Again: or the Language of the Poet Asserted: Being a Full but Dispassionante Examen of the Readings and Interpretations of the Several Editions*, in two volumes, vol. one (London: A. J. Valpy, 1815), 41.

<sup>D</sup> William Hazlitt, *Characters of Shakspear's Plays* (London: C. H. Reynell, 1817), 103-114. Hazlitt's analysis of Hamlet makes no mention of *mortal coil*.

<sup>E</sup> Edmond Malone and James Boswell (the younger), eds., *The Plays and Poems of William Shakspeare, with the Corrections and Illustrations of Various Commentators: Comprehending a Life of the Poet, and an Enlarged History of the Stage*, vol. VII. *Hamlet*, by the Late Edmond Malone (London: H. Baldwin, 1821 reprinted New York: AMS Press, 1966), 323. Posthumous edition of Malone's notes completed by James Boswell (the younger), and is known as the *Third Variorum*. No change to the definition of "coil."

<sup>F</sup> Isaac Reed, ed., *The Works of William Shakspeare: in ten volumes, with the corrections and illustrations of Dr. Johnson, G. Steevens, and others*, vol. 10, *Hamlet* (NY: Collins and Hannay, 1821), 54.

<sup>G</sup> Nicholas Rowe, ed., *The Dramatic Works of William Shakspeare: to Which are Added his Miscellaneous Poem* (London: Sherwin, 1821), 599.

<sup>H</sup> *Chiswick* [Geographic location], *The Dramatic Works of William Shakspeare, with a Glossary* Chiswick: Printed by C. Wittingham for Thomas Tegg, et. all., (1823), 659. New York Public Library catalog entry identifies as the *Chiswick* edition.

<sup>I</sup> William Pickering, publisher, *The Plays of Shakspeare, in Nine Volumes*, vol. IX (London: William Pickering, 1825), "Glossary," ix,

<sup>J</sup> William Pickering (publisher), *The Comedies, Histories and Tragedies of Shakspeare; The Dramaitc Works of Shakspeare* (London: William Pickering, 1826), "Glossary," 771.

<sup>K</sup> A. J. Valpy, ed., *Hamlet: The Plays and Poems of Shakspeare, with a Life, Glossarial Notes, etc.*, vol. XIV (London: Printed by A. J. Valpy, 1833), 80.

- (53) 1834 Coleridge No definition.<sup>A</sup>  
 (54) 1836 Steevens Bustle, stir.<sup>B</sup>  
 (55) 1843 Collier No definition.<sup>C</sup>  
 (56) 1844 Collier No definition.<sup>D</sup>  
 (57) 1844 Collier No definition. Leipzig edition.<sup>E</sup>  
 (58) 1844 Dyce No definition.<sup>F</sup> [A critique of other editors by Dyce.]  
 (59) 1845 Hunter "Turmoil, bustle," says Warburton; rather perhaps, but I speak it doubtfully, this coil of flesh which encompasseth the soul, what he elsewhere calls "this muddy vesture of decay." He was thinking of the *coil* of a rope. With this expression "shuffled off" better coheres.<sup>G</sup>
- (60) 1847 Verplanck No definition.<sup>H</sup>  
 (61) 1853 Collier No definition.<sup>I</sup>  
 (62) 1853 Cowden Clarke No definition.<sup>J</sup>  
 (63) 1854 Walker No definition.<sup>K</sup>  
 (64) 1855 Collier "This mortal coil" i.e. the tumult and bustle of life.<sup>L</sup>

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<sup>A</sup> Coleridge: H. J. Jackson, and George Whalley, eds., *The Collected Works of Samuel Taylor Coleridge* vol. 12, *Marginalia* vol. 4, *Pamphlets to Shakespeare* (London: Routledge and K. Paul, 1969). Coleridge wrote his pamphlet commentaries sometime before 1834.

<sup>B</sup> George Steevens, ed., *The Dramatic Works of William Shakespeare, Printed from the Text of the Corrected Copies of Steevens and Malone. With a Life of the Poet, by Charles Symmons D.D. A Glossary and Sixty Embellishments. A New Edition* (London: Printed for Charles Tilt, 1836), 848.

<sup>C</sup> J. Payne Collier, ed., *The Works of William Shakespeare. The Text formed from an Entirely New Collation of the Old Editions: with the various Readings, Notes, a Life of the Poet, and a History of the Early English Stage, in eight volumes*, vol. VII, *Hamlet*, (London: Whittaker & Co., 1843), 260.

<sup>D</sup> J. Payne Collier, ed., *The Complete Works of William Shakespeare. The Text Formed from an Entirely New Collation of the Old Editions: With the Various Readings, Notes, a Life of the Poet, and a History of the Early English Stage. By J. Payne Collier. Esq. F.S.A.*, in eight volumes (London: Whittaker & Co., 1844). The glossarial index is in volume 1.

<sup>E</sup> J. Payne Collier ed., *The Plays and Poems of William Shakespeare, Printed from the Text of J. Payne Collier, Esq., F.S.A., with the Life and Portrait of the Poets*. Complete in seven volumes. (Leipzig: Bernhard Tauchnitz, 1843-1844).

<sup>F</sup> Alexander Dyce, *Remarks on Mr. J. P. Collier's and Mr. C. Knight's Editions of Shakespeare. by the Rev. Alexander Dyce* (London, E. Moxon, 1844).

<sup>G</sup> Joseph Hunter, *New Illustrations of the Life, Studies, and Writings of Shakespeare. Supplementary to all the Editions. In two volume* (London: J. B. Nichols and Son, 1845), .

<sup>H</sup> Gulian C. Verplanck, ed., *Shakespeare's Plays: With his Life, with Critical Introduction, Notes, etc., Original and Selected, In three volumes*. Vol. III—*Tragedies* (New York: Harper & brothers, 1847).

<sup>I</sup> J. Payne Collier, *Notes and Emmendations to the Text of Shakespeare's Plays from Early Manuscript Corrections in a Copy of the Folio 1632 in the Possession of J. Payne Collier, Esq. F.S.A* (NY: Redfield, 1853).

<sup>J</sup> Mary Cowden Clarke, *The Complete Concordance to Shakspere: Being a Verbal Index to All the Passages in the Dramatic Works of the Poet* (Boston: Little, Brown, 1853), 120.

<sup>K</sup> William Sidney Walker, *Shakespeare's Versification*, (London: John Russell Smith, 1854).

<sup>L</sup> J. Payne Collier, "Jewett's Collier Edition." *The Complete Works of William Shakespeare, Comprising his Plays and Poems, with a History of the Stage, a Life of the Poet, and an Introduction to Each Play: The Text of the Plays corrected by the Manuscript Emendations contained in the Recently Discovered Folio of 1632. By J. Payne Collier, Esq., F.S.A. To which are added, Glossarial and Explanatory Notes, and Notes to the Emendations, containing the Readings of Former Editions, by John L. Jewett. With New and Original Designs by T. W. Matteson, Engraved by Alexander Anderson* (NY: George F. Cooledge & Brother, 1855), 754. The definition for "mortal coil" is not by Collier, but an addition by John L. Jewett, the editor of the 1855 edition.

- (65) 1857 Dyce No definition.<sup>A</sup> [The Works, as edited by Dyce.]
- (66) 1860 Cowden Clarke No definition.<sup>B</sup>
- (67) 1860 Hamilton No definition.<sup>C</sup>
- (68) 1863 Dodd Stir, bustle.<sup>D</sup>
- (69) 1864 Booth No definition.<sup>E</sup>
- (70) 1864 Clark Tumult, turmoil.<sup>F</sup>
- (71) 1864 Delius *mortal coil* dezieht sich, wie das demonstrative *this* zeigt, auf die vorher angeführten einzelnen Bestandtheile dieses Wirrsals der Sterblichkeit, auf *heart-ach* [*sic*] und auf *thousand natural shocks*.<sup>G</sup>
- (72) 1864 Hackett A man may be exhibited shuffling off his garments or his chains; but how should he shuffle off a *coil* which is another term for noise and tumult, we cannot comprehend. A *coil* in Shakespeare, means a tumult, hubbub, etc.; shuffle off this mortal coil, *rid* one's self of this mortal strife and confusion.<sup>H</sup>
- (73) 1865 Halliwell [Apparently Malone's without attribution.] Turmoil, bustle. A passage resembling this, occurs in a poem entitled A Dolfull Discours of Two Strangers, a lady and a knight, published by Churchyard, among his Chippes, 1575:-- Yea, shaking off this sinfull soyle,--Me / Thincke in clouds I see, / Among the perfite chose lambs,--A place / Prepared for mee. – Stevens.<sup>I</sup>

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<sup>A</sup> Alexander Dyce, ed. *The Works of William Shakespeare. the Text Revised by the Rev. Alexander Dyce.* vol. 5, *Hamlet* (London: E. Moxon, 1857).

<sup>B</sup> Mary Cowden Clarke, *The Complete Concordance to Shakspeare: Being a Verbal Index to All the Passages in the Dramatic Works of the Poet (New and Revised Edition)* (Boston: Little, Brown, 1860), 120.

<sup>C</sup> N.E.S.A. Hamilton, *An Inquiry into the Genuineness of the Manuscript Correction in Mr. J. Payne Collier's Annotated Shakspeare, Folio, 1632: And of Certain Shaksperian Likewise Published by Mr. Collier* (London: Richard Bentley, 1860, reprinted, NY: AMS Press, Inc., 1973).

<sup>D</sup> William Dodd, *The Beauties of Shakespeare* (Halifax: Milner and Sowerby, 1863), "Soliloquy on Life and Death" 233.

<sup>E</sup> Lionel Booth, ed., *Shakespeare as Put Forth in 1623: A Reprint of Mr. William Shakespeares Comedies, Histories & Tragedies. Published According to the True Original Copies* (London: Isaac Iaggard, and Ed Blount, 1623; and reprinted for Lionel Booth, 1864). There are two editions of this work in the New York Public Library, differentiated only by the size of the volumes and by the call numbers: (1) \*NCMB+(1864); (2) \*NCMB++(Repr1864).

<sup>F</sup> William George Clark, and William Aldis Wright, eds., *The Works of William Shakespeare, The Globe Edition* (London: MacMillan, 1887 first edition 1864), 1058.

<sup>G</sup> Nicolaus Delius ed., *Shakespeare's Hamlet, Prince of Denmark*, (Elberfeld: Verlag von R. L. Friderichs, 1864), 79.

<sup>H</sup> James Henry Hackett, *Notes and Comments upon Certain Plays and Actors of Shakespeare, with criticism and correspondence*, third edition (New York, Carleton, 1864), 21 The author is a Shakespearian actor.

<sup>I</sup> James Orchard Halliwell, ed., *The Works of William Shakespeare: The Text Formed from a New Collation of the Early Editions: to which are added all the original novels and the tales on which the plays are founded; copious archæological annotations on each play; an essay on the formation of the text, and a life of the poet.* Vol. XIV *Hamlet* (London: Printed for the editor by J. E. Adlard, 1865).

- (74) 1866 Clarke<sup>i</sup> Tumult, turmoil.<sup>A</sup>  
 (75) 1866 Clarke<sup>ii</sup> Spoil Mason conj; *vail* or *clay* Elze conj.<sup>B</sup>  
 (76) 1866 Clarke<sup>iii</sup> Spoil Mason conj; *vail* or *clay* Elze conj.<sup>C</sup>  
 (77) 1868 Jervis Tumult; turmoil.<sup>D</sup>  
 (78) 1869 Romdahl Thus in all the old copies. One editor (Elze) has conjectured, *veil* (= veil, cover) or *clay*, another (Mason), *soil*. *Coil*, if that reading is accepted, is used in the now obsolete sense of *tumult*, *bustle*.<sup>E</sup>
- (79) 1871 Ashbee No definitions.<sup>F</sup>  
 (80) 1874 Ingleby ...to attempt to end our troubles by self-destruction...<sup>G</sup>  
 (81) 1874 Schmidt Turmoil, bustle, confusion. In *Hamlet*, this turmoil of mortality, of life.<sup>H</sup>  
 (82) 1874 Cowden Clark No definition for usage in *Hamlet*. In three plays (Temp. i. 2, Two Gen. V. i. 2, and Much Ado v. 2,) the definition given is: bustle, tumult, confusion.<sup>I</sup>  
 (83) 1875 Clarke 'Tumult,' 'bustle,' 'worry,' 'fuss.' The choice of this word in the present passage [*Hamlet*] appears to us peculiarly felicitous, inasmuch as it includes the effect of that which oppressively encircles, like the coils of a serpent around its prey.<sup>J</sup>

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<sup>A</sup> <sup>i</sup> William Georg Clarke and William Aldis Wright, eds., *The Works of William Shakespeare, The Globe Edition*, (Boston: Roberts Brothers, 1866), p. 1062. The *Glossary* edited by Rev. J. M. Jephson, and for the definition of *coil* he references "Temp I.2".

<sup>B</sup> <sup>ii</sup> William Georg Clarke and William Aldis Wright, eds., *The Works of William Shakespeare, Vol. VIII, Hamlet*, (London and Cambridge: Macmillan and Co, 1866) p. 79. The definitions are footnoted and not in a glossary, as in the *Globe* edition.

<sup>C</sup> <sup>iii</sup> This work is with the Furness papers. Title page is wanting. A handwritten note identifies the volume as "Furness Variorum Workbook (*Hamlet*) based on the "Cambridge Shakespeare (1866)." The Annenberg Rare Book Room, Library of the University of Pennsylvania, Ms. Coll. 481 Box 44, Furness Family Papers 1765-1937 & *Hamlet* notebooks.

<sup>D</sup> Swynfen Jervis, *A Dictionary of the Language of Shakspeare* (London: John Russel Smith, 1868), 58.

<sup>E</sup> Axel Romdahl, *Obsolete Words in Shakespeare's Hamlet* (Upsala: W. Schultz, Printer to the University, 1869), 31.

<sup>F</sup> Edmund William Ashbee, *Lithographic facsimiles of the early quarto editions of the separate works of Shakespeare; including every known edition of all the plays which were issued during the life-time of the great dramatist. By Edmund William Ashbee. In forty-eight volumes.* vols. 1, 2, 27, 28, 30, 43 (London: Chiswick Press, 1871).

<sup>G</sup> C. M. Ingleby, *The Still Lion: an Essay towards the Restoration of Shakespeare's Text. Reprinted, with Additions, from the Second Annual Volume of the German Shakespeare Society* (London: Trüber, 1874), 89. Paraphrase of the soliloquy.

<sup>H</sup> Alexander Schmidt, *Shakespeare-Lexicon: A Complete Dictionary of all the English Words, Phrases and Constructions in the Works of the Poet*, vol 1 (London: William & Norgate, 1874), 212.

<sup>I</sup> Charles Cowden Clarke and Mary Cowden Clarke, eds., *The Works of William Shakespeare; Edited, with a Scrupulous Revision of the Text*, vol. I (London: Bickers and Son, 1874), Glossary, xxxvij.

<sup>J</sup> Charles Cowden Clarke and Mary Cowden Clarke, eds., *Cassell's Illustrated Shakespeare, The Plays of Shakespeare. Edited and Annotated by Charles and Mary Cowden Clarke* vol. 3 (London: Cassell, Petter, and Galpin, 1875), 408.

- (84) 1877 Furness                    It is here used in each of its senses: turmoil, and that which entwines or wraps around. Snakes generally lie like the coils of ropes; and, it is conceived, that an allusion is here had to the struggle which the animal is obliged to make in casting his slough. [Furness adopts Caldecott's explanation.]<sup>A</sup>
- (85) 1878 Crosby                    Metaphor for death.<sup>B</sup>
- (86) 1878 Knight                    No definition.<sup>C</sup>

<sup>A</sup> Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare*, Eleventh Edition: *Hamlet*, vol. I, *Text* (Philadelphia: J. B. Lippincott, 1877), 210-211. Footnote: "WARBURTON: Turmoil, bustle. HEATH: The incumbrance of this mortal body. STEEVENS: Compare *A Dolfull Discours of Two Strangers, &c.*, published by Churchyard, among his *Chippes*, 1575: 'Yea, shaking off this sinfull soyle Me thincke in cloudes, I see,' &c. M. MASON (p. 383) agrees with HEATH in referring this to the body, this 'covering of flesh,' and is persuaded that we should read 'mortal *spoil*,' which is the same word as the slough which the snake casts every year. In sense it means the same as 'the case of flesh,' in *Bonduca* [IV, iv, p. 82, Beau. & Fl. *Works*, ed. Dyce]; and again, 'a separation Betwixt this spirit and the case of the flesh.'—*The Elder Brother* [IV, iii, p. 262, Beau. & Fl. *Works*, ed. Dyce]: but the most complete parallel is 'this muddy vesture of decay.'—*Mer. of Ven.* V, I, 64. CALDECOTT: It is here used in each of its senses: turmoil, and that which entwines or wraps around. Snakes generally lie like the coils of ropes; and, it is conceived, that an allusion is here had to the struggle which the animal is obliged to make in casting his slough. HUNTER (ii, 240): He was thinking of the *coil* of a rope. With this expression 'shuffled off' better coheres. SINGER: It is remarkable that under *garbuglio*, which corresponds in Italian to our 'coil,' Florio has a 'pecke of troubles,' of which Shakespeare's 'sea of troubles' may be only an aggrandized idea. ELZE: With what reason can turmoil or noise be termed mortal? And how can we shuffle off a mortal noise? We are convinced that under 'coil' is concealed an error which we can remedy by an almost imperceptible change, if instead of 'coil' we read *vail*. *Vail* means a covering, an integument, and our body is the mortal covering or integument which we must shuffle off in order to enter on the life beyond. In Botany *vail* is the envelope, the chalypter of mosses, which enfolds the fructifying organs and which is burst by them, and it is not impossible that it was used generally for the envelope of buds. We do not venture to assert that Sh. knew this meaning of the word, but we know with what keen looks he must have examined nature. Beyond a doubt, *clay* would be better, but it would harmonise less with the received text. ELZE (*Shakespeare-Jahrbuch*, vol. ii, p. 362) advocates the substitution of *soil* for 'coil,' which word he found in the *Dolfull Discours*, quoted by STEEVENS. ELZE supports his conjecture very ably, but it is needless. 'Shuffle' decides; a *coil* may be said to be *shuffled* off, but *soil* would be *shaken* off. HUDSON: AS WORDSWORTH has it: 'the fretful stir unprofitable, and the fever of the world.' In *N. & Qu.* 23 Feb. '56, INGLEBY started the question of how far the popular interpretation of 'coil,' as *the body*, is justified; the discussion was continued by 'X.' on the 15 March following, who maintained that in every instance where the word is used by Sh. It means *turmoil, tumult*; and in a second communication to the same journal on the 11<sup>th</sup> Oct., the same correspondent pertinently asks whether the contrast be not intended between 'coil' and 'quietus.' INGLEBY replied (8 Nov. '56) that the interpretation of *body* for 'coil' was a popular error, not his, and that it perhaps arose, as suggested to him by a correspondent, from a confusion on the part of the public between the present passage and *Colossians*, iii, 9, with a reference also to 2 *Corinthians*, v, 1-5. H. T. RILEY (8 Nov. '56, also) has no doubt that 'coil' refers to the *body*, and that it was suggested by *Romans*, vii, 24. The coil received its quietus on 18 Sept. '58, by 'A. M. of Greenock,' who cites a derivation of the word from the Gaelic *cochul*, meaning the scaly integument which clothes the lower limbs of a mermaid [!]. INGLEBY, however, in his excellent *Sh. Hermeneutics* (p. 88, footnote), says that the analogies are too strong in favor of the 'mortal coil' being what FLETCHER, in *Bonduca*, call the 'case of the flesh.' [CALDECOTT'S interpretation, that 'coil' is used in both senses, seems to me the true one. Ed.]"

<sup>B</sup> In a letter dated 18 May 1878 (letter no. 247) Crosby writes to Norris: "...My dear fellow, you give me the "*blues*" when you say that it is your conviction "that the days of our pleasant correspondence are numbered."! Why should they be? It is *my* "conviction," *au contraire*, that the *only thing* that can, or will, number them, is the shuffling off the mortal coil, by one or the other of us, most likely first by me.—"Death, as the Psalmist saith, is certain to all; all shall die"..." John W. Velz and Frances N. Teague, eds., *One Touch of Shakespeare: Letters of Joseph Crosby to Joseph Parker Norris, 1875-1878* (Washington: The Folger Shakespeare Library, 1986), 320.

<sup>C</sup> Charles Knight, ed., *The American Shakespeare, from the Original Text: Carefully Collated and Compared with the Editions of Halliwell, Knight, and Collier, with Historical and Critical Introductions, and Notes to Each Play, and a Life of the Great Dramatist. By Charles Knight, Illustrated with New and Finely Executed Steel*

- (87) 1879 Cowdon Clarke No definition.<sup>A</sup>  
 (88) 1879 Duyckinck No definition.<sup>B</sup>  
 (89) 1883 Gervinus No definition.<sup>C</sup>  
 (90) 1884 Clarke Entanglement, turmoil. The figure here is from a 'coil' of rope.<sup>D</sup>  
 (91) 1887 Mackay ...that in this life, we are bound as in a coil of rope, and that death enables us to shuffle off the restraint; or "mortal coil," may signify the struggle and strife with care and sorrow, that disturb the peace of all who live; though "shuffle off" is scarcely a phrase that aptly accords with the metaphor.<sup>E</sup>

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*Engravings, chiefly Portraits in Character of Celebrated American Actors, drawn from Life, expressly for this Edition*, volume 3, *Tragedies* (NY: Henry J. Johnson, 1878).

<sup>A</sup> Mary Cowden Clarke, *The Complete Concordance to Shakspeare: Being a Verbal Index to All the Passages in the Dramatic Works of the Poet (New and Revised Edition)* (London: Bickers & Son, 1872), 120.

<sup>B</sup> George Long Duyckinck, *The Complete Works of William Shakespeare: With a Full and Comprehensive Life, a History of the Early Drama, an Introduction to Each Play, the Readings of Former Editions, Glossarial and Other Notes, etc., etc., From the Works of Collier, Knight, Dyce, Douce, Halliwell, Hunter, Richardson, Verplanck, And Hudson* (Philadelphia: Porter & Coates, 1879).

<sup>C</sup> Georg Gottfried Gervinus, *Shakespeare Commentaries*, trans. F. E. Bunnètt (London: Smith, Elder, 1883, reprint NY: AMS Press, 1971), 549-582.

<sup>D</sup> W. G. Clarke, and Wright, W. A., eds., *Hamlet, Prince of Denmark* (Oxford: Clarendon Press, 1884), 167.

<sup>E</sup> Charles Mackay, *A Glossary of Obscure Words and Phrases in the Writings of Shakspeare and his Contemporaries: traced etymologically to the ancient language of the British people as spoken before the irruption of the Danes and Saxons* (London: S. Low, Marston, Searle, and Rivington, 1887), 91-93. [Emphasis made **bold**]: "COIL. In modern English, *coil*—derived from the French *cueillir*, to pluck or gather, and from the Latin *colligere*—signifies, to gather a rope into a circular heap, to twist round; whence the *coil* of a serpent. But with the Elizabethan writers the word signified tumult, confusion, entanglement, difficulty. Johnson derives it from the German *Koller*, rage, madness, which is nothing but the Teutonic form of the French *colère*, anger; but Nares, very properly dissatisfied with this explanation, declares the word to be of "very uncertain derivation."

This *coil* would not affect his reason. *Tempest*, act i, scene 2.

You would not believe what a *coil* I had the other day, to compound a business between Katrine (Catherine) pear-woman and him about snatching.—Ben Jonson, *Bartholomew Fair*, act i, scene 4.

They talk of wit, and this and that, and keep a *coyle* and pother about it.—Shadwell, *True Wisdom*.

To see them keeping up such a *coil* about nothing.—*Suckling*.

There's a great *coil* to-morrow.—*Much Ado about Nothing*.

The true etymology of *coil* in this sense—which does not appear in modern dictionaries, having become obsolescent, if not entirely obsolete—is the Keltic [*sic*] *coile*, violent movement; *coileid*, noise, strife, stir, movement; akin to *goil*, to gurgle and bubble like boiling water; *coilideach*, noisy, stirring, confused, tumultuous. Shakespeare uses this word in two different senses—that of a *coil* of rope, gathered into a circle to prevent entanglement; and in that of noise, uproar, or disturbance. **In the beautiful soliloquy of Hamlet upon death, *coil* is used in a manner suggestive of a meaning different from that of a gathering of rope into a circular form, or from that of a noise or disturbance:—**"To die! To sleep? / To sleep, perchance to dream; Ay, there's the rub, / For in that sleep of death what dreams may come / When we have shuffled off this mortal *coil*?" Act iii, scene 1. Possibly the metaphor may mean, that in this life we are bound as in a coil of rope, and that death enables us to shuffle off the restraint; or "mortal coil," may signify the struggle and strife with care and sorrow, that disturb the peace of all who live; **though "shuffle off" is scarcely a phrase that aptly accords with the metaphor.** *Cochull* or *cochuill*, in Keltic, signifies a husk, a shell, the outer covering—in which the guttural *ch* is scarcely pronounced, or is shortened into the English *coil*—a very near approach to the Keltic, *co-huil*. In this case the metaphor would be both beautiful and appropriate, comparing the body to the mortal husk or shell of the immortal spirit; which Death enables us to shuffle off, as the grub shuffles off the husk and shell of its cocoon, and soars aloft in the upper air on wings, the emblem of the soul."



- (92) 1887 O'Connor No definition.<sup>A</sup>  
 (93) 1888 Rolfe Turmoil. S. never uses the word in the familiar modern sense.<sup>B</sup>  
 (94) 1890 Corson This entanglement, turmoil of earthly life, or, it may be, this coil of flesh, "this muddy vesture of decay."<sup>C</sup>  
 (95) 1899 Dowden trouble or turmoil of mortal life. In this sense *coil* occurs several times in Shakespeare, as in *Tempest*, I.ii.207. He nowhere uses it in the sense of concentric rings, nor does the *New English Dictionary* give an example earlier than 1627. The notion that *mortal coil* means the body, encircling the soul, may be set aside.<sup>D</sup>
- (96) 1901 Newnes Tumult.<sup>E</sup>  
 (97) 1902 Gollancz Mortal life, turmoil of mortality.<sup>F</sup>  
 (98) 1902 Hubbard No definition.<sup>G</sup>  
 (99) 1903 Collier "This mortal coil" i.e. the tumult and bustle of life.<sup>H</sup>  
 (100) 1904 Hill Mortal life, turmoil of mortality.<sup>I</sup>  
 (101) 1905 Craig Mortal coil: turmoil, trouble of this mortal life. "Coil" as always in Shakespeare, means "turmoil, bustle". Cp. "King John," II., I, 165. Shakespeare's mind, which dearly loved a quibble, was possibly "tiring [*sic*] on" the sense "coil of rope," bonds.<sup>J</sup>
- (102) 1908 Raleigh No definition.<sup>K</sup>  
 (103) 1909 Cobden No definition.<sup>L</sup>

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<sup>A</sup> Evangeline O'Connor, *An Index to the Works of Shakspeare: giving references, by topics, to notable passages and significant expressions; brief histories of the plays; geographical names, and historical incidents; mention of all characters, and sketches of important ones; together with explanations of allusions and obscure and obsolete words and phrases* (New York: D. Appleton & Co., 1887), 68.

<sup>B</sup> William J. Rolfe, ed., *Shakespeare's Tragedy of Hamlet* (New York: Harper & Brothers, 1888), 217.

<sup>C</sup> Hiram Corson, *An Introduction to the Study of Shakespeare* (Boston: D. C. Heath, 1890), 209.

<sup>D</sup> Edward Dowden, ed., *The Works of Shakespeare: The Tragedy of Hamlet, edited by Edward Dowden* (London: Methuen & Co., 1899), 99-100.

<sup>E</sup> George Newnes, Ltd, (publisher), *Shakespeare's Comedies*, (London: George Newnes, Ltd, 1901), "Glossary," 937. This three-volume set is not numbered. By title: *Shakespeare's Histories and Poems*, *Shakespeare's Comedies* (containing the Glossary), and *Shakespeare's Tragedies*.

<sup>F</sup> Israel Gollancz, ed., *Hamlet: The Temple Shakespeare* (London: J. M. Dent, 1902, second edition).

<sup>G</sup> Elbert Hubbard ed., *Shakespeare's Tragedy of Hamlet Prince of Denmark* (East Aurora, NY: Roycroft Shop, 1902).

<sup>H</sup> J. Payne Collier, ed., *The Complete Works of William Shakespeare, Comprising his Plays and Poems, with a History of the Stage, a Life of the Poet, and an Introduction to Each Play: the Text of the Plays Corrected by the Manuscript Emendations contained in the Recently Discovered Folio of 1632. By J. Payne Collier ... To which are added, Glossarial and Explanatory Notes, and to the Emendations ... by John L. Jewett. With New and Original Designs by T. M. Matteson ...* (Akron OH: Saalfield Publ. Co., 1903), 754. Note: The title page is lacking; title from the New York Public Library catalog. The definition for "mortal coil" is not by Collier, but an addition by John L. Jewett, the editor of the 1855 version of this edition, reprinted in 1903.

<sup>I</sup> J. A. Hill, publisher, *The Complete Works of William Shakespeare, with Historical and Analytical Prefaces, Comments, Critical and Explanatory Notes, Glossaries, and a Life of Shakespeare*, vol. 4, *Hamlet* (New York: J. A. Hill & Company, 1904), 183.

<sup>J</sup> W. J. Craig, ed., *Hamlet Prince of Denmark, in: Ten Plays of Shakespeare, With Introduction and Notes by W. J. Craig* (London: Methuen & Co., 1905), 126.

<sup>K</sup> Walter Raleigh, ed., *Johnson on Shakespeare: Essays and Notes Selected and Set Forth with an Introduction by Walter Raleigh* (Oxford: Clarendon Press, 1965; first published 1908), 191.

<sup>L</sup> T. J. Cobden-Sanderson, (printer), *The Tragicall Historie of Hamlet* ([?]: Doves Press, 1909).

(104)	1910	Eliot	Turmoil of life. <sup>A</sup>
(105)	1914	<i>Knickerbocker</i>	No definition. <sup>B</sup>
(106)	1927	Czeschka	No definition. <sup>C</sup>
(107)	1928	<i>Cranach</i>	No definition. <sup>D</sup>
(108)	1929	Adams	Turmoil of life; also the body, conceived of as a coil of rope entwining the soul. <sup>E</sup>
(109)	1930	<i>Ernst</i>	No definition. <sup>F</sup>
(110)	1930	Wilson	No definition. <sup>G</sup>
(111)	1932	Farjeon	No definition. <sup>H</sup>
(112)	1933	Murray	No definition. <sup>I</sup>
(113)	1934	Wilson	(a) bustle, turmoil, (b) with a quibble upon 'coil' of rope. <sup>J</sup>
(114)	1936	Wright	Bustle, stir. <sup>K</sup>
(115)	1936	Kittredge	Tumult, disturbance (with a play on the sense of entanglement). <sup>L</sup>

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<sup>A</sup> Charles W. Eliot, ed., *Elizabethan Drama: Marlowe, Shakespeare* (New York: Collier, first printing 1910; 62nd printing, 1969), 144.

<sup>B</sup> *Knickerbocker*, printer, *Hamlet, Prince of Denmark*. New York: Knickerbocker Leather & Novelty Co., [?]. Recorded entering into the holdings of the Rare Book Division of the New York Public Library in 1914.

<sup>C</sup> C. O. Czeschka, *William Shakespeare Hamlet Prince of Denmark Act 3 Scene 1* (Hamburg: Genzsch & Heyse Schriftgiesserei A-G, 1927).

<sup>D</sup> *Cranach Presse*, printer, *Die Tragische Geschichte von Hamlet Prinzen von Dänemark: In Deutscher Sprache* (Weimar: Cranach Presse, 1928).

<sup>E</sup> Joseph Quincy Adams, ed., *Hamlet, Prince of Denmark* (Boston: Houghton Mifflin Company, 1957, first published 1929), 76.

<sup>F</sup> *Ernst Ludwig Presse* printer, *Shakespears Works* vol. 1-7 of which vol. 6 is *Hamlet* (1930), (Darmstadt: Ernst Ludwig Presse, 1925-31).

<sup>G</sup> John Dover Wilson, ed., *The Tragedie of Hamlet Prince of Denmarke, Edited by J. Dover Wilson Litt. D. from the text of the Second Quarto 1604-1605 'According to the True and Perfect Coppie' with which are also printed the Hamlet stories from Saxo Grammaticu and Belleforest and English Translations Therefrom. Illustrated by Edward Gordon Craig and printed by Count Harry Kessler at the Cranach Press* (Weimar: Cranachpresse, 1930).

<sup>H</sup> Herbert Farjeon, ed., *The Works of Shakespeare: The text of the First Folio, with Quarto variants and a selection of modern readings: edited by Herbert Farjeon, The Tragedie of Hamlet, Prince of Denmarke*, volume V (New York: The Nonesuch Press Random House Inc., 1932).

<sup>I</sup> Gilbert Murray, *The Tragedy of Hamlet, Prince of Denmark* (London: Hague and Gill, printed for the Limited Editions Club, 1933).

<sup>J</sup> John Dover Wilson and Harold Hannington Child, eds., *Hamlet* (Cambridge: University Press, 1957, second ed. 1936), 266. The quibble on coil is explained further on page xxxiv of the Introduction by Wilson: "We need not hesitate, therefore, to credit Shakespeare with the quibble upon 'coil, a winding of rope,' or Hamlet with the notion of the body as a troublesome entanglement which the soul 'shuffles off' at death. [In a footnote explaining shuffle, the editors explain:] 'shuffle off' means 'shirk' or 'evade' (cf. *Tw. Nt.* 3. 3. 16); its modern sense of disencumbering oneself hastily of some garment or wrap is derived from *Hamlet*. The original meaning of 'shuffle' is to 'shuffle with the feet' as one walks, and the image in Shakespeare's mind was, I think, that of the soul standing erect and freeing itself from the lifeless body which has fallen to the ground like a divested garment."

<sup>K</sup> William Aldis Wright, ed., *The Complete Works of William Shakespeare, the Cambridge Edition Text, including the Temple Notes* (Garden City, NY: Doubleday, Doran, 1936), 1495.

<sup>L</sup> George Lyman Kittredge, ed., *The Complete Works of Shakespeare* (Boston: Ginn, 1936), 1533.

- (116) 1938 Allen [In a review article, Allen reports:] Dowden, in his edition of *Hamlet* (London, 1899), he points out that "coil" is used in the sense of "trouble" or "turmoil" several times by Shakespeare, in *The Tempest*, I, 2, 207, for instance. And Dowden adds "He nowhere uses it in the sense of concentric rings, nor does the *New English Dictionary* give an example earlier than 1627. The notion that "mortal coil" means the body encircling the soul may be set aside." Another reason for accepting the explanation that Dowden defends is that other phrases in the soliloquy express the idea that death is a release from such ills as might be expressed by "bustle" or "turmoil."...[Allen then considers opinions that the phrase is referring to suicide, and concludes with a quotation from Voltaire]...In his letter, "Sur la Tragédie" (1733?), the latter [Voltaire] translates the phrase "enveloppe mortelle."<sup>A</sup>
- (117) 1938 Parrott No definition.<sup>B</sup>
- (118) 1946 Kittredge Disentangled ourselves from the tumult of human affairs. *Coil* carries not only the sense of 'turmoil' (the only sense in Shakespeare elsewhere) but probably also as 'shuffle off' suggests, that of 'something that entangles us'—'is coiled about us' (like rope). These two uses of coil are really different words of distinct derivation, but in Shakespeare's time they must have been regarded as the same word in two strangely different senses.<sup>C</sup>
- (119) 1948 Harrison Cast off this fuss of life.<sup>D</sup>
- (120) 1950 *Pauper* No definition.<sup>E</sup>
- (121) 1954 Kökeritz No definition.<sup>F</sup>
- (122) 1955 Bowers Not a compositor's error.<sup>G</sup>
- (123) 1957 Farnham To-do, turmoil.<sup>H</sup>

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<sup>A</sup> N. B. Allen, "Hamlet's 'To Be or Not to Be' Soliloquy," *The Shakespeare Association Bulletin*, vol. 13 (1938), 199.

<sup>B</sup> Thomas Marc Parrott, and Hardin Craig, eds., *The Tragedy of Hamlet; a Critical Edition of the Second Quarto, 1604, with Introduction and Textual Notes* (Princeton: Princeton University Press, 1938), 141.

<sup>C</sup> George Lyman Kittredge, ed., *Sixteen Plays of Shakespeare: with full explanatory notes, textual notes, and glossaries* (Boston: Ginn, 1946, first edition 1941).

<sup>D</sup> G. B. Harrison, ed., *Shakespeare: the Complete Works* (New York: Harcourt, Brace & World, 1968 first published 1948), 906.

<sup>E</sup> *Peter Pauper Press*, publisher, *The Tragedy of Hamlet* (Mount Vernon, NY: Peter Pauper Press, 1950?).

<sup>F</sup> Helge Kökeritz, ed., *Mr. William Shakespeare's Comedies, Histories & Tragedies: a Facsimile Edition* (New Haven: Yale University Press, 1954).

<sup>G</sup> Fredson Bowers, ed., *Studies in Bibliography*, vol. VII, 1955. Five articles in this edition of the *Papers of the Bibliographical Society of the University of Virginia* analyze compositor errors in *Hamlet*. In no instance is *mortal coil* reported to be a compositor's error. The papers are: Alice Walker, "Compositor Determination and Other Problems," 3-15. John Russell Brown, "The Compositors of *Hamlet* Q2 and *The Merchant of Venice*," 17-40. Fredson Bowers, "The Printing of *Hamlet*, Q2," 41-50. Alice Walker, "Collateral Substantive Texts (with special reference to *Hamlet*)," 51-67. Harold Jenkins, "The Relation Between the Second Quarto and the Folio Text of *Hamlet*," 69-83.

<sup>H</sup> Willard Farnham, ed., *Hamlet Prince of Denmark* (New York, NY: Penguin Books, 1970 first published 1957), 67.

(124) 1957 Mahood            **Mahood explains:** “Behind the word's superficial, contextual meaning of 'commotion, turmoil' lies, in the idea of a coil of rope, an image of convolution as powerful as Blake's Mundane Shell. It suggests the labyrinthine ingenuity with which Claudius and Polonius go about and about to pluck the heart out of Hamlet's mystery; the maze of his own mind; the temporal-spatial restrictions of mortal life, seen by the Elizabethans as the concentric spheres of the physical world; above all, the corruption of mortal flesh which Hamlet longs to slough off as a snake its skin....”<sup>A</sup>

(125) 1957 Munro            Bustle, turmoil.<sup>B</sup>

(126) 1963 Hoy              Bustle, turmoil.<sup>C</sup>

(127) 1968 Sherbo            No definition.<sup>D</sup> [However, see entry: 1765 Johnson]

(128) **1969 Charney**        "Shuffled" off is not a pleasant image, and a sense of deception is attached to it from its other contexts. Both "this mortal coil" and

the "dreams" of the "sleep of death" have their reciprocal unattractiveness, so that neither can possibly outbalance the other, and we are left at the end with a puzzled will. In addition to its obvious sense of turmoil, fuss and disturbance, **"mortal coil" could also mean the round globe of the earth, as symbolized by the concentric coils of a pile of ship's rope. "shuffled," then, would refer to the evasive motions one makes in taking leave of this earth and this life.**

[Referencing: Wilson, page xxxiv and M. M. Mahood, *Shakespeare's Wordplay* (London, 1957) 122.]

(129) 1969 Farnham        *Shuffled off* cast off as an encumbrance. *Coil to-do*, turmoil.<sup>E</sup>

(130) 1970 Grebanier        Fuss.<sup>F</sup>

(131) 1971 Ribner            (a) the tumult and turmoil of human affairs, (b) the human body, the wrapping of flesh which entangles the soul and which may be

"shuffled" off by death.<sup>G</sup>

(132) 1973 Greg              No definition.<sup>H</sup>

(133) 1973 Mack              Fuss, turmoil (but with punning allusion to life as a coil of rope).<sup>I</sup>

<sup>A</sup> Molly Maureen Mahood, *Shakespeare's Wordplay* (London: Methuen, 1957), 122.

<sup>B</sup> John Munro, ed., *The London Shakespeare; a New Annotated and Critical Edition of the Complete Works in Six Volumes*, vol. 5, *Tragedies* (New York: Simon and Schuster, 1957), 1646.

<sup>C</sup> Cyrus Hoy, ed., *Hamlet; an Authoritative Text, Intellectual Backgrounds, Extracts from the Sources, Essays in Criticism* (New York: W. W. Norton, 1963), 67.

<sup>D</sup> Arthur Sherbo, *Johnson on Shakespeare*, vol. 8 (New Haven: Yale University Press, 1975 first edition 1968). Sherbo, in this edition of Johnson's *Hamlet*, omits Johnson's definition.

<sup>E</sup> Alfred Harbage, gen. ed., *William Shakespeare: The Complete Works* (Baltimore: Penguin Books, 1969, reprinted 1971), 951.

<sup>F</sup> Bernard D. N. Grebanier, ed., *The Heart of Hamlet; the Play Shakespeare Wrote* (New York: Crowell, 1967, first edition 1960), 380. In Grebanier's analysis of the soliloquy (pages 202-212), he gives the context for "mortal coil" on pages 210-211: "...To die, to sleep—perchance *not* to forget, but to dream! There's the obstacle ("rub")! For who knows what dreams we may have once we have "shuffled off" the fuss of living ("mortal coil")? That is the consideration ("respect") that makes calamity so long-lived...."

<sup>G</sup> Irving Ribner and George Lyman Kittredge, eds., *The Complete Works of Shakespeare* (Lexington, MA: Xerox College Publishing, 1971), 1071.

<sup>H</sup> Sir W. W. Greg, ed., *Hamlet; a Concordance to the Text of the Second Quarto of 1604-5* (Oxford: Clarendon Press, 1973).

<sup>I</sup> Maynard Mack and Robert W. Boynton, eds., *The Tragedy of Hamlet* (New York: Hayden Book Co., 1973), 74.

- (134) 1974 Evans                   The turmoil of this mortal life.<sup>A</sup>
- (135) 1974 Petronella            Something which binds or ties.<sup>B</sup>
- (136) 1980 Bevington            Turmoil.<sup>C</sup>
- (137) 1982 Jenkins                A richly suggestive word: (1) turmoil of activity, the invariable sense in Shakespeare; but here also, in a bold nautical metaphor, (2) something wound round us like a rope. This second sense seems clear from *shuffled off* (=got rid of, cast aside), but *OED* can cite no instance before Cotgrave (1611): *Vrillonner une cable*, to coil a cable, to wind...it up round, or in a ring'. Unlike many commentators, I do not see this *coil* as anything so simple as the body, from which the soul frees itself at death. It includes all the appurtenances, occupations, and experiences of mortal life.<sup>D</sup>
- (138) 1982 King                  Life imaged as "coile" (a spiraling configuration suggestive of painful bodily constriction, and "shuffel'd" (suggestive of a bone-weary, foot dragging gait that slowly move towards death)...<sup>E</sup>
- (139) 1985 Edwards               Got rid of the turmoil of living. 'shuffled off' is difficult. 'shuffled' is used twice more in the play, 3.3.61 and 4.7.136, in a derogatory sense deriving from cards, to mean 'manipulate with intent to deceive'. 'shuffle off' is found in *Twelfth Night* 3.3.16, and means 'get rid of in an unfair or fraudulent way'. There must be some slight sense of malpractice here: evasion, slipping out of things.<sup>F</sup>
- (140) 1986 Hubler                 (1) turmoil (2) a ring of rope (here the flesh encircling the soul).<sup>G</sup>
- (141) 1986 Wells                  Noisy disturbance, fuss, trouble.<sup>H</sup>
- (142) 1987 Clemen                Physical liberation from earthly affliction.<sup>I</sup>
- (143) 1987 Hibbard               (1) this turmoil and trouble of living (2) this mortal flesh, the 'too too solid flesh' of 1.2.129, which encloses within its coils or folds our essential being and has to be *shuffled off* at death as a snake sloughs its old skin. An extended gloss on this second sense is provided by Chapman in his *Revenge of Bussy D'Ambois* 5.5.168-175.<sup>J</sup>

<sup>A</sup> G. Blakemore Evans, ed., *The Riverside Shakespeare* (Boston: Houghton Mifflin Company, 1974), 1160.

<sup>B</sup> Vincent W. Petronella, "Hamlet's 'To be or not to be' Soliloquy: Once More unto the Breach," *Studies in Philology*, vol. 71, no. 1 (January 1974), 83.

<sup>C</sup> David M. Bevington and David Scott Kastan, eds., *Hamlet, Prince of Denmark* (New York: Bantam Dell, 2005 first edition 1980), 120.

<sup>D</sup> Harold Jenkins, ed., *Hamlet, The Arden Edition* (New York: Methuen, 1982), 278-279. The section entitled *Longer Notes* does not deal with *coil*.

<sup>E</sup> Walter N. King, *Hamlet's Search for Meaning*, (Athens, GA: The University of Georgia Press, 1982), 72.

<sup>F</sup> Philip Edwards, ed., *Hamlet, Prince of Denmark: Updated Edition* (Cambridge: Cambridge University Press, 2003, first ed. 1985), 158.

<sup>G</sup> Hubler, Edward, ed., *The Tragedy of Hamlet Prince of Denmark* (NY: The American Library, 1963, reprinted 1987, 93.

<sup>H</sup> Stanley Wells and Gary Taylor, gen. eds., *William Shakespeare: The Complete Works, Original-Spelling Edition* (Oxford: Clarendon Press, 1986.), "Glossary," 1441.

<sup>I</sup> Wolfgang Clemen, *Shakespeare's Soliloquies* (London: Methuen, 1987), 139.

<sup>J</sup> George Richard Hibbard, ed., *Hamlet* (Oxford: Oxford University Press, 1994; first published 1987), 240.

- (144) 1988 Wells Noisy disturbance, fuss, trouble.<sup>A</sup>
- (145) 1991 Bevington Turmoil.<sup>B</sup>
- (146) 1992 Mowat Untangled ourselves from the flesh; also detached ourselves from the turmoil of human affairs.<sup>C</sup>
- (147) 1992 Weller (1) turmoil; (2) (?) rope.<sup>D</sup>
- (148) 1994 Wofford Line 66: **shuffled off**: Freed ourselves from **this mortal coil**: The turmoil of this mortal life.<sup>E</sup>
- (149) 1996 Mobley Life's turmoil.<sup>F</sup>
- (150) 1996 Shewmaker The turbulence of human existence.<sup>G</sup>
- (151) 1997 Greenblat Turmoil; flesh.<sup>H</sup>
- (152) 1998 Coye No definition.<sup>I</sup>
- (153) 2001 Rowse Stress of life.<sup>J</sup>
- (154) 2002 Crystal The bustle of life.<sup>K</sup>
- (155) 2002 Silverbrush Both (1) a length of rope wound around something and (2) turmoil of activity, tumult [*mortal coil* i.e. both the human body (which encompasses the soul) and the worldly activities and troubles encountered while in the human body].<sup>L</sup>
- (156) 2003 Raffel When we have gotten rid of this clutter/fuss (*and coil of rope/cable*).<sup>M</sup>

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<sup>A</sup> Stanley Wells and Gary Taylor, gen. eds., *The Complete Works: Compact Edition* (Oxford: Clarendon Press, 1991 first published 1988), 1259.

<sup>B</sup> David Bevington, ed., *The Complete Works of Shakespeare*, Fourth Edition (New York: Harper Collins Publishers, Inc., 1992), 1087. Although first published pre-1968 under the editorship of someone else, the current editor, Bevington, claims extensive revisions, for which reason this work is listed chronologically in the year of printing the 4<sup>th</sup> edition.

<sup>C</sup> Barbara A. Mowat, and Paul Werstine, eds., *The Tragedy of Hamlet, Prince of Denmark - New Folger's Editions* (New York: Washington Square Press/Pocket Books, 1992), 126.

<sup>D</sup> Shane Weller, ed., *Hamlet: Dover Thrift Edition* (New York: Dover Publications, 1992), 53.

<sup>E</sup> Susanne L. Wofford, ed., *William Shakespeare, Hamlet: Complete, Authoritative Text with Biographical and Historical Contexts, Critical History, and Essays from Five Contemporary Critical Perspectives* (Boston: Bedford Books, 1994), 82.

<sup>F</sup> Jennie Patricia Mobley, ed., *Access to Shakespeare: The Tragedy of Hamlet Prince of Denmark* (Los Angeles: Lorenz Educational Publishers, 1996), 113.

<sup>G</sup> Eugene F. Shewmaker, *Shakespeare's Language: a Glossary of Unfamiliar Words in Shakespeare's Plays and Poems* (New York: Facts On File, 1996), 84.

<sup>H</sup> Stephen Greenblatt, gen. ed., *The Norton Shakespeare: Based on the Oxford Edition* (New York: W. W. Norton, 1997), 1705.

<sup>I</sup> Daniel F. Coye, *Pronouncing Shakespeare's Words: A Guide from A to Zounds* (Westport, CT: Greenwood Press, 1998.). "Coil" is not defined.

<sup>J</sup> A. L. Rowse, *The Arden Shakespeare Complete Works*, vol. III, *The Tragedies and Romances* (London: Arden Shakespeare, 2001), 225.

<sup>K</sup> David Crystal and Ben Crystal, *Shakespeare's Words: A Glossary and Language Companion* (London: Penguin Books, 2002), 82.

<sup>L</sup> Rona Silverbrush and Sami Plotkin, *Speak the Speech! Shakespeare's Monologues Illuminated* (New York: Faber and Faber, 2002), 553.

<sup>M</sup> Burton Raffel, ed., *Hamlet* (New Haven: Yale University Press, 2003), 97.

- (157) 2003 Kliman No definition.<sup>A</sup>  
 (158) 2004 Kliman No definition.<sup>B</sup>  
 (159) 2005 Jack Mortal flesh.<sup>C</sup>  
 (160) 2006 Thomson (1) this turmoil and trouble of living, (2) this mortal flesh ... which encloses within its coils or folds our essential being and has to be *shuffled off* at death as a snake sloughs its old skin' (Hibbard). The phrase seems to have been coined by Shakespeare: see *OED* coil *sh.* 2.4b.<sup>D</sup>

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<sup>A</sup> Bernice W Kliman. and Paul Bertram, eds., *The Three-Text Hamlet: Parallel Texts of the First and Second Quartos and First Folio*, Second Edition, *Revised and Expanded* (New York: AMS Press, 2003).

<sup>B</sup> Bernice W. Kliman, ed. *The Enfolded Hamlets : Parallel Texts of <F1> and [Q2] each with Unique Elements Bracketed* (New York: AMS Press, 2004).

<sup>C</sup> Alex Jack, ed., *Hamlet by Christopher Marlowe and William Shakespeare*, vol. 2, *History and Commentary* (Becket, MA: Amber Waves, 2005), 384.

<sup>D</sup> Ann Thomson and Neil Taylor, eds., *Hamlet* (London: Arden Shakespeare, 2006), 285.

Note: an accompanying volume comparing Q1 with F1 does not present a definition for *mortal coil*. See: Ann Thomson and Neil Taylor, eds., *Hamlet: The Texts of 1603 and 1623* (London: Arden Shakespeare, 2006).

**APPENDIX C: Furness Footnote *As stars with trains of fire***

Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare*, vol. 8, *Hamlet*, I Text, 16th ed. (Philadelphia: J. B. Lippincott, 1877), 17-21.

The footnote deals with two lines, the entire 117 and the first half of 118: "As stars with trains of fire and dews of blood, / Disasters in the sun..." [Act 1, Scene I, Lines 117-118].

[Enumeration added.]

1. MALONE: When Sh. had told us that the 'graves stood tenantless,' &c., which are wonders confined to the earth, he naturally proceeded to say (in the line now lost) that yet other prodigies appeared in the sky; and the phenomena he exemplified by adding, 'As [*i.e.* for instance] stars with trains,' &c. I suspect that the words 'As stars' are a corruption, and that the lost words, as suggested by the passage in *Jul. Cæs.*, II, ii, which describes the prodigies preceding his death, contained a description of '*fiery warriors fighting in the clouds,*' or of '*brands burning bright beneath the stars.*' What makes me believe that the corruption lies in 'As stars' is the disagreeable recurrence of 'stars' in the next line. Perhaps Sh. wrote: *Astres* with trains of fire—and dews of blood Disastrous dimm'd the sun! '*Astre*' is an old word for *star*; see *Diana*, a collection of poems, printed circa 1580. [See also Florio, '*Stella*: a starre, a planet.' ED.]
2. KNIGHT rather favors Malone's emendation, and thinks that it gets rid of the difficulty.
3. CALDECOTT finds no difficulty in conceiving the meaning of the passage as it stands, reading or understanding it thus: 'The graves opened, the dead were seen abroad [spectacles such] as,' &c.
4. MITFORD (*Gent. Mag.*, Feb 1845): This line has merely got out of its place; there is nothing wanting. Transpose it to follow line 121, and read, 'As stars with.....blood, *Are* harbingers preceding,' &c.
5. A.E.B.[RAE] (*N. & Qu.*, 24 Jan. 1852): It is only by the occurrence of such difficulties as the present, which, after remaining so long obscure, are at last only resolvable by presupposing in Sh. a depth of knowledge far exceeding that of his triflers, that his wonderful and almost mysterious attainments are beginning to be appreciated. In the present case he must not only have known that the fundamental meaning of *aster* is a spot of light, but he must also have taken into consideration the power of *dis* in producing an absolute reversal in the meaning of the word to which it may be prefixed. Thus, *service* is a benefit, *disservice* is an injury, while *unservice* (did such a word exist, would be a negative mean between two extremes. Similarly, if *aster* signify a spot of light, a name singularly appropriate to a comet, *disaster* must, by reversal, be a *spot of darkness*, and 'disasters in the sun' no other than what we should call spots upon his disk. Read, therefore, '*Asters* with trains of fire,' &c.
6. SINGER (ed. 2): As it has been conjectured that a line has been here lost, perhaps we might read: '*And as the earth, so portents fill'd the sky, Asters, with trains of fire,*' &c. *Disaster* is used



as a verb in *Ant. & Cleop.* II, vii, 18, and it has therefore been conjectured that we should read *Disastering* here.

7. COLLIER thinks that these lines are probably irretrievably corrupt, but that there is no sufficient reason for supposing a line to have been lost, adding, 'We shrewdly suspect that the error lies merely in the word "Disasters," which was perhaps misprinted, because it was immediately below "As stars," and thus misled the eye of the old compositor. We do not imagine that Sh. used so affected and unpopular a word as *astres* or *asters*.'

8. W. W. WILLIAMS proposes: 'Astres with trains of fire and dews of blood, Did overcast the sun,' &c.

9. STAUNTON awards some plausibility to Malone's emendation, and considers *Astres* or *Asters* as an acceptable conjecture, but conceives, with Collier, that the cardinal error lies in 'Disasters,' which conceals some verb importing the obscuration of the sun; for example, 'Asters with trains of fire and dews of blood *Distempered* the sun,' or '*Discoloured* the sun.'

10. DYCE pronounces the passage hopelessly mutilated, and in his 2d ed. Terms Leo's alterations 'most wretched,' and also gives a MS.

11. Emendation by BOADEN, supplying the missing line thus: '*The heavens, too, spoke in silent prodigies; As, stars,*' &c.

12. WHITE says that a preceding line, or even more than one, has been lost.

13. CLARKE: Bearing in mind that Sh. uses 'as' many times with markedly elliptical force, and in passages of very peculiar construction, we do not feel so sure that the present one has suffered from omission. It may be that the sentence is to be understood, 'As there were stars of fire, &c., so there were disasters in the sun,' &c.

14. FARBIUS OXONIENSES (*N. & Qu.*, 7 Jan. 1865): Read, 'As stars (*i.e.* while stars)...or, 'And stars...*Disastrous dimm'd* the sun.'

15. DUANE (*N. & Qu.*, 3d S. viii, 30 Sept. '65): 'I am convinced Sh. wrote, 'Did usher in the sun.' This make sense of the whole passage; it is metrical, and it produces a line in analogy with the line '*did speak and gibber*.' The words *did usher* might readily be mistaken for 'Disasters,' and the compositor's eye may have caught the word 'stars' in the line above.

16. KEIGHTLEY (*Expositor*): Perhaps for 'disasters' we might read *distempers*: 'distemperatures of the sun,'—1 *Hen. IV*: V, i.

17. MASSEY (*The Secret Drama of Shakespeare's Sonnets*, ed. ii, 1872, Supplement, p. 46) inserts lines 121-125 between lines 116 and 117, and asserts that 'it must be admitted that we recover the perfect sense of the passage by this insertion.' There is no eclipse of either sun or moon mentioned in *Jul. Cæs.*, and its mention here, Massey infers, must point to some actual, recent instance. The Astronomer Royal, being applied to, replied by showing that there was an

eclipse of the moon on 20 February, 1598, and one of the sun, almost total, on 6 March following. Hence Massey infers that this year is the date of the composition of *Hamlet*, and that is this passage Sh. pointed, by the eclipse of the moon, to the death or deposition of Queen Elizabeth, who had an attack of 'special sickness at the time.' Moreover, 'disasters in the sun' Massey thinks, might have been 'sun-spots' which Sh. 'noted' and so 'pluralized [*sic*] the phenomenon.'

18. MOBERLY agrees with Malone in supplying the missing line from the corresponding passage in *Jul. Cæs.*, if a line be really lost.

19. CLARENDON: Sh. had probably in his mind the passage in North's *Plutarch, Jul. Cæs.* P. 739 (ed. 1631): 'Certainly, destinie may easier be foreseen then auoided, considering the strange and wonderfull signes that were said to be seene before Cæsars death. For, touching the fires in the element, and spirits running vp and downe in the night, and also the solitary birds to be seene at noon daies sitting in the great market place, are not all these signes perhaps worth the noting, in such a wonderful chance as happened?' Plutarch also relates that a comet appeared after Cæsar's death for seven nights in succession, and then was seen no more, that the sun was darkened and the earth brought forth raw and unripe fruit.

## NOTES

## 2. MEMENTO MORI

<sup>1</sup> William Drummond (1585-1649) expressed this sentiment of mortality in his essay, *A Cyprus Grove*: "...This Globe environed with Air, is the sole Region of Death, the Grave, where every Thing that taketh Life must rot, the Stage of Fortune and Change,...." William Drummond, *The Works of William Drummond, of Hawthornden. Consisting of Those which were formerly Printed and Those which were desgin'd for the Press. Now Published from the Author's Original Copies* (Edinburgh: James Watson in Craig's-Closs, 1711), 118. The John Pierpont Morgan Library, PML 17062.

<sup>2</sup> John Foxe (1516-1587) the Protestant ecclesiastic who wrote under Elizabeth's patronage the monumental history of the Protestant church, *Actes and Monuments*. By royal decree it was placed in every church to be accessible to the public (it was illustrated with gory depictions of Protestant martyrdom for those who could not read). Foxe concludes the chapter about King Henry II's reign with a discussion of the King's great wealth at the time of his death and his unhappy relationship with his rebellious sons. Foxe writes [emphasis made **bold**]: "But there is no felicitie or wealth in this **mortal world** so perfect, which is not darkened with some cloud of incumbrance and aduersitie...." John Foxe, *Actes and monuments of matters most speciall and memorable, happening in the church, with an universall historie of the same....*, vol. 1 (London: Printed for the Company of Stationers, 1610, sixth edition, first edition 1563), 207. The John Pierpont Morgan Library, PML 3201.

<sup>3</sup> John Chamberlain (1554-1628) was one of the *Wiser Sort*, educated at Cambridge and then at Gray's Inn. Family bequests enabled him to enjoy a life of leisure in London without the concerns of employment, and he spent his days as an observer of events and cultivated a wide circle of friends who held positions of importance at court and in society. Corresponding with his acquaintances when they were away from London, he gossiped about matters of mutual interest. His modern editor, Norman Egbert McClure, says of him: "...Chamberlain, then, spent his life, or at least that part of it covered by his extant letters, in the shadow of the great cathedral [St. Paul's], the center of the book-trade and the general meeting-place of all Londoners. That he was a frequenter of this rendezvous his letters supply ample proof. He went there, it appears, almost daily to meet friends or to talk with others like himself..." In 1602, his friend Carleton is in Paris. In a letter dated 17 June 1602, Chamberlain shares the latest gossip in London concerning events, mutual friends and acquaintances, including deaths [emphasis made **bold**]: "...Old Mistris Davers Master Doylies mother is dead and I was at her funeral where there was no mourning. The old Lady Fitzwilliams hath **left the world** likewise, with many other old women among whom there is come a kinde of **mortalitie**...." Norman Egbert McClure, *The Letters of John Chamberlain*, vol. 1, (Philadelphia: The American Philosophical Society, 1939), 5 and 150.

<sup>4</sup> Leonard Digges, *A prognostication euerlasting of right good effecte...., Published by Leonard Digges Gentleman. Lately corrected and augmented by Thomas Digges his sonne* (London: Thomas Marsh, 1576), *STC* (2<sup>nd</sup> ed.) / 43547. Copy from the Henry E. Huntington Library and Art Gallery.

<sup>5</sup> Virginia F. Stern, *Gabriel Harvey: His Life, Marginalia and Library* (Oxford: Clarendon Press, 1979), 'Plate B' reproduces the famous marginal notation.

<sup>6</sup> Raymond Siller, "Word Craft: Raymond Siller, Comedy Writer, Heeere's [*sic*]...Johnny's Writer!" *The Wall Street Journal*, "Saturday/Sunday, August 6-7, 2011, "Review Section," C12. "Take My Wife...please!" That signature line, delivered by the late comedian Henny Youngman, may be the purest instance of economy in comedy. Those four monosyllables contain the essentials of a good joke. In the set-up, Henry ostensibly starts to tell a story about his wife. But then he whiplashes his listeners, turning the sentence into a plaintive cry of despair with the payoff word 'please!' In Henny's day, Americans were primed for wife and mother-in-law gags. Today's humor is more observational, dealing with every day events. But some things never change. Comedy writers are liars. A joke that kills uses misdirection, exaggeration and surprise to deceive. The listener shouldn't see the sucker punch-line coming.... *Mr. Siller was the longtime head writer on 'The Tonight Show Starring Johnny Carson.'*"

<sup>7</sup> For a comprehensive overview of astronomic knowledge and the rejection of the Copernican theory in Shakespeare's era see: **(1)** Francis R. Johnson, *Astronomical Thought in Renaissance England: A Study of English Scientific Writings from 1500 to 1645* (New York: Octagon Books, 1968 reprint of the 1937 first edition). **(2)** Edward Grant, *Planets, Stars, & Orbs: The Medieval Cosmos, 1200 – 1687* (Cambridge: The Press Syndicate of the University of Cambridge, 1994). **(3)** James R. Voelkel, *The Composition of Kepler's Astronomia Nova* (Princeton, NJ: Princeton University Press, 2001). **(4)** Edward Rosen, *Three Imperial Mathematicians: Kepler trapped between Tycho Brahe and Ursus* (New York: Abaris Books, 1986).

### 3. COMPETING COSMOLOGIES

<sup>8</sup> W. Shea, "Galileo and the Supernova of 1604." *1604-2004 Supernovae as Cosmological Lighthouses*. Astronomical Society of the Pacific Conference Series 342 (2005): 13-20, 15.

<sup>9</sup> For the purpose of this essay there is no advantage to enter into the complexities of Tycho Brahe's astronomy. Tycho was an Aristotelian, in that he firmly held to the belief that the EARTH was in the center of the WORLD, but differed as to how the PLANETS orbited a stationary EARTH. Tycho's cosmology was a seriously considered theory; but it is not mentioned in Francis Bacon's 1605 publication *Advancement of Learning* (discussed at length in this essay). Christianson, in his biography on Tycho Brahe, writes: "Various almanacs, commentaries, textbooks, tables, and two editions of Ptolemy's astrological *Tetrabiblos* were among the works that appeared in print before the year 1500. The printing of Ptolemy's *Almagest* in a good edition in 1538 and the appearance of Copernicus's *De revolutionibus* in 1543 raised the published literature of astronomy to a new level. When these two sophisticated, comprehensive works became widely available, comparison was inevitable, which in turn presented Tycho's generation [read 'Shakespeare's generation'] with its greatest dilemma: Which system was correct?" John Robert Christianson, *On Tycho's Island: Tycho Brahe and his Assistants, 1570-1601* (Cambridge, University Press, 2000), 104, for the Tychonian system see 122-123.

<sup>10</sup> **(1)** Stillman Drake relates this story to demonstrate the obstacles faced by Galileo in convincing Aristotelians to consider the evidence revealed by his telescope [emphasis made **bold**]: "At Pisa the leading philosopher had refused even to look through the telescope; when he died a few months afterward, Galileo expressed the hope that since he neglected to look at the new celestial objects while on earth, **he would now see them on his way to heaven.**" The obstinate philosopher is identified as "Giulio Libri (1550-1610) who had taught both at Pisa and at Padua during Galileo's service in those universities." Galileo Galilei, *Discoveries and Opinions of Galileo: Including The Starry Messenger (1610), Letter to the Grand Duchess Christina (1615), and excerpts from Letters on Sunspots (1613), The Assayre (1623)*, translated with an introduction and notes by Stillman Drake (New York: Random, 1957, 1<sup>st</sup> Anchor Books edition), 73. **(2)** Drake's source document is a letter by Galileo: "...A Pisa è morto il filosofo Libri, acerrimo impugnatore di queste mie ciancie, il quale, non le havendo mai volute veder in terra, **le vedrà forse passar al cielo.**" Galileo Galilei, *Le Opere di Galileo Galilei: Ristampa della edizione nazionale di s. m. il re D'Italia e di s. e. Benito Mussolini*, vol. X (Firenze, G. Barnèra, 1934), "Correspondence 1574-1642, Letter 436, Galileo to Paolo Gualdo in Padova, 17 December 1610," 484.

<sup>11</sup> Peter Apian, *Cosmographia Peter Apiani...* (Antverpiae, Apud haeredes Arnoldi Birckmanni, 1564), "diagram of the world," leaf Fo. 3 (leaf 3<sup>D</sup>), signa B<sup>1D</sup>. By permission of The Pierpont Morgan Library, New York, PML 37542.

<sup>12</sup> George F. Warner, ed., *The Library of James VI. 1573-1583 from a manuscript in the hand of Peter Young, his tutor*. Edited with Introduction and Notes, by George F. Warner, Assistant Keeper of Manuscripts, British Museum (Edinburgh: Printed at the University Press by T. and A. Constable for the Scottish History Society, 1893), page xlv, footnote 1 "*La Cosmographie de Pierre Apian nouvellement trad. de latin en françois*, etc., Antwerp, 1544, 4to."

<sup>13</sup> Ichiro Hasegawa, "Catalogue of Ancient and Naked-Eye Comets," *Vistas in Astronomy* 24, (1980): 59-102. From the archives of all civilizations recording astronomical events, from 2315 BC to 1970 CE, Hasegawa tabulates 1,254 comets visible to the unaided eye, a few being nova-events or possible nova events. In "Table 1,

List of Naked Eye Comets,” on pages 85-86, he reports twelve observed in Europe: 1573, 1577, 1578, 1579, 1580, 1581, 1582 March and May, 1585, 1590, 1593 and 1596.

<sup>14</sup> In 1680, two generations after Shakespeare and in the age of Newton and telescopes, Robert Hooke explained in a lecture before the *Royal Society* how the planetary crystalline spheres were understood by the early astronomers to cause comets to appear in the *Air* below the sphere of the Moon. The crystalline curved structure of the spheres would focus the rays of the Sun and stars into the *Air* of the GLOBE to cause a comet to materialize: exactly as a reflecting concave mirror could be used to concentrate sunlight and set wood to burn. Said Hooke: “...This might well enough agree with the Opinion of the Peripateticks [followers of Aristotle] and those that supposed the Planets and Stars fixt in solid orbs, whose motions carried them round, and thence possibly they might allude to the Focus of a Burning-Glass, as if this appearance were nothing else by the Rays of some Celestial Body, whether Sun, Planet, or fixed star, which being collected into one Point by Reflection, from the middle parts of the Concave of some of the solid Crystalline Orbs, might there make a bright Appearance, and then the Tail would be nothing else but the union of other rays which fell further from the middle or Axis of the Concave, which unit at several Distances from it...” Richard Waller, ed., *The Posthumous Works of Robert Hooke. With a New Introduction by Richard S. Westfall* (New York: Johnson Reprint Corporation, 1969 first published, London: Royal Society, 1705). Jan-Feb 1680, Lectures on Light, Discourse on Comets.

<sup>15</sup> Ben Jonson [Jonson], *B. Jon: His Part of King James his Royall and Magnificent Entertainment through his Honorable Citie of London, Thurseday the 15<sup>th</sup>.of March. 1603* (London: by V. S. for Edward Blount, 1604), *Early English Books Online*, hereafter *EEBO*: STC-14576-75, images 13-15, from the British Library, shelf mark c.39.d.1.

<sup>16</sup> Lucy Aikin explains in her history of James: “The corporation of London, anxious to display its loyalty by the exhibition of costly and ingenious pageants, customary on similar occasions, lost no time in engaging Ben Jonson in the task of devising subjects for these spectacles and furnishing them with appropriate Latin Mottos.” Lucy Aikin, *Memoirs of the Court of King James the First*, vol. 1, second edition (London, Longman, Hurst, Rees, Orme and Brown, 1822), 151.

<sup>17</sup> Johnson [Jonson], *His Part of King James*, image 15.

<sup>18</sup> Roberte Recorde, *The Castle of Knowledge* (London: Reginalde Wolfe, 1556), 9, *EEBO* STC (2<sup>nd</sup> ed.) 20796, image 13. On the verso side of the title page is the description of the contents, where Recorde says of his English language work “...not written before in any vulgare woorkes.” Reprinted 1596, page 7, *EEBO* STC 20797, image 10. Both from the Henry E. Huntington Library & Art Gallery.

<sup>19</sup> Record, *The Castle of Knowledge*, 249. *EEBO* STC 20796, image133.

<sup>20</sup> James R. Voelkel, *The Composition of Kepler’s Astronomia Nova* (Princeton: Princeton University Press, 2001). The opening chapters present for the layperson a lucid explanation of the Copernican theory and explain the near universal rejection by the astronomers of the time.

<sup>21</sup> Digges, *A prognostication euerlasting ...*, signa M. *EEBO* STC 43547\_288\_03, image 47, from the Henry E. Huntington Library and Art Gallery. See also: Francis R. Johnson and Sanford V. Larkey, “Thomas Digges, the Copernican System, and the Idea of the Infinity of the Universe in 1576,” *The Huntington Library Bulletin*, No. 5. (Apr., 1934), 69-117.

<sup>22</sup> Digges, *A prognostication euerlasting ...*, insert before signa M. *EEBO* STC 43547\_288\_03, image 46. Also notable is the claim that stars extend infinitely and are not restricted to a sphere of *Fixed Stars*. This paper does not explore the argument that Elizabethan telescopic-devices were available and used before Galileo’s historic observations. See: Colin A. Ronan “Unidentified Elizabethan Telescope?” *The International Journal of Nautical Archaeology*, Vol. 23, Issue 3 (1994 August), 250.

<sup>23</sup> For biographical information about Gilbert and his place in Elizabethan society, see: Duane H. D. Roller, *The De Magnete of William Gilbert*, (Amsterdam: Menno Hertzberger, 1959), Chapter Two.

<sup>24</sup> (1) "Author's Preface. To The Candid Reader, Studious Of The Magnetic Philosophy: Since in the discovery of secret things and in the investigation of hidden causes, stronger reasons are obtained from sure experiments and demonstrated arguments than from probable conjectures and the opinions of philosophical speculators of the common sort..." See: William Gilbert, *William Gilbert of Colchester, Physician of London, On the Loadstone and Magnetic Bodies and on the Great Magnet the Earth*, A Translation by P. Fleury Mottelay, (New York: John Wiley & Sons, 1893), xlvi. (2) For a more literal rendition of Gilbert's Latin, see: William Gilbert, *William Gilbert of Colchester, Physician of London, On the Magnet: Magnetick Bodies also, and on the Great Magnet the Earth*, A Translation by Silvanus Phillips Thompson for the Gilbert Club (London: Chiswick Press, 1900), . ij. "Preface to the Candid Reader, Studious of the Magnetick Philosophy. Clearer proofs, in the discovery of secrets, and in the investigation of the hidden causes of things, being afforded by trustworthy experiments and by demonstrated arguments, than by the probable guesses and opinions of the ordinary professors of philosophy..."

<sup>25</sup> Gilbert argues for an infinity of stars as in the model promoted by Thomas Digges. See: William Gilbert, *William Gilbert...* Thompson, "Book VI, Chap. III. On the magnetic diurnal revolution of the Earth's globe, as a probable assertion against the time-honoured *opinion of a Primum Mobile*," 214-220.

<sup>26</sup> Gilbert published in Latin. The quotations are from a facsimile of Gilbert's first edition of 1600. See: William Gilbert, *Gvilielmi Gilberti Colcestrensis, Medici Londinensis, De Magnete, Magnetisis Que Corporibv, Et De Magno Magnete Tellure*, (London: Peter Short, 1600, facsimile Berlin: Mayer and Müller, 1892). The literal English translation is by Thompson for the Gilbert Club. See: William Gilbert, *William Gilbert of Colchester, Physician of London, On the Magnet: Magnetick Bodies also, and on the Great Magnet the Earth*, A Translation by Silvanus Phillips Thompson for the Gilbert Club. (London: Chiswick Press, 1900.) The pagination is the same for both texts. "Globe" and "Earth" are used by Gilbert in their Elizabethan meanings. Several examples of the terminology used in Book VI to describe the Globe's motion [emphasis made **bold**]:

Page 214: CAP. III. De Terrefttris globi diurna **reuolutione** magnetica,...

CHAP. III. On the magnetick diurnal **revolution** of the Earth's globe...

Page 217: Magnum hoc videtur & incredibile quibufdam philosophis, propter inueteratam opinionem, terrae vstum corpus **circulariter contorqueri** 24 horarum spatio:...

Great and incredible it seems to some philosophers, by reason of inveterate prejudice, that the Earth's vast body should be **swirled wholly round** in the space of 24 hours....

Page 220: CAP. IIII. Terram **circulariter** moueri.

CHAP. IIII. That the Earth moves **circularly**.

Page 220: Nam æquinoctium immutationes ab inflexione quâdam axis terræsiunt; in illa tamen inflexione, motiuam constantiam terra habet, à proprijs viribus, Terra vt conuertatsese diurnâ **reuolutione** polis suis innititur For changes of the æquinoxes take place from certain deflection of the Earth's axis; yet in regard to that deflection, the Earth, that she may turn herself about in a diurnal **revolution**, leans on her poles....

Page 225: Motus igitur telluris tprtius, est primarius, astræus, **circularis, circa polos suos**,...

The motion then of the whole Earth is primary, astral, **circular, around its own poles**,...

<sup>27</sup> (1) William Gilbert, *William Gilbert...*Mottelay, xii. (2) Johannes Kepler, *New Astronomy, Translated by William H. Donahue* (Cambridge: Cambridge University Press, 1992), 68. In the *Preface* to his 1609 work *Commentaries on Mars* (now popularly known as *Astronomia nova*, or the *New astronomy*), Kepler concludes his introduction to the reader by relating how the conceptualization of his cosmological model came about [emphasis made **bold**]: "Finally, the pediment was added to the structure [of the cosmological model], and proven geometrically: that it is in the order of things for such a reciprocation [referring to the motion of the planets] to be the result of a **magnetic corporate faculty**.... See also pages. 385-391, "Chapter 34 The Sun is a **Magnetic** Body and **Rotates in Space**." (3) In a publication commemorating the publication of *Astronomia nova*, an article describes how Kepler utilized the concept of magnetism, see: Sigurd Tønnessen, "Kepler's Analysis of the Dynamics of Planetary Motion," in: *Kepler's Heritage in the Space Age: 400<sup>th</sup> Anniversary of Astronomia nova*, eds. Alena Hadravová, Terrence J. Mahoney and Petr Hadrava, *Acta Historiæ Rerum Natualium Necnon Technicarum*, vol. 10 (Prague: National Technical Museum in Prague, 2010), 24-31. (4) Accompanying the *Kepler's Heritage in*

*the Space Age* publication is a CD-ROM with a scan of Kepler's 1609 edition. On page 176 (image 25\_C-1-16761\_2FRVN30176P), Kepler credits Gilbert "...cum ipsa tellus Gulielmo Gilberto, Anglo demonstrante magnus...."

<sup>28</sup> Sir Christopher Heydon, *A Defence of Iudicial Astrologies, in Answer to a Treatise Lately Published by M. Iohn Chamber*, by Sir Christopher Heydon, Knight (Cambridge: Iohn Legat, Printer to the University of Cambridge, 1603), 164. *EEBO* STC-13266-1143\_11-p1to308, image 94, from Henry E. Huntington Library and Art Gallery.

#### 4. WISER SORT

<sup>29</sup> **(1)** James VI King of Scotland, *The Lepanto of James the Sixt, King of Scotland* (at Edinburgh: Printed by Robert Walde-graue, printer to the Kings Maiestie. Cum priuilegion Regali, 1591). **(2)** Seigneur Guillaume de Salluste Du Bartas, *La Leparthe de Iaques VI. Roy Decosse. Faicte Francoise par le Sieur DuBartas* (Imprine A Edinbvirg Par Robert Waldegrave, Imprimeur du Roy. Anno Dom. 1591. Avec Priuilege de sa Majestè). The two works are bound as the second and third titles in PML 6218, The Pierpont Morgan Library.

<sup>30</sup> Seigneur Guillaume de Salluste Du Bartas, *Bartas: his deuine vveekes and works translated: & dedicated to the Kings most excellent Maiestie, by Iosuah Sylvester* (London: Printed by Humfrey Lownes, 1605), 120-121. *EEBO*: STC (2<sup>nd</sup> ed.) / 21649, image 78. Copy from Henry E. Huntington Library and Art Gallery, call no. 69230.

<sup>31</sup> James Howell, *Epistolae Ho-Eliana. Familiar letters, domestic and forren; divided into six sections, partly historical, political, philosophicall, upon emergent occasions: by J. H. Esq.; one of the clerks of his Majesties most honourable Privy Council* (London: Printed for H. Moseley, 1645), Letter III," Section 1, 8-9, "Letter XXXIII," Section 1, 62-63. *EEBO*, Wing (2<sup>nd</sup> ed) / H3071, images 12 and 40. Source, British Library.

<sup>32</sup> John Donne, *Devotions upon Emergent Occasions, and seuerall steps in my Sicknes*, the Third Edition (London: Printed for Thomas Iones, 1626), 511-512. *EEBO* STC 7035-1685-06, images 260-261.

<sup>33</sup> Sabol's text detailing the court songs and dances in the court of James provides a window into the court rituals of Queen Elizabeth. See: Andrew J. Sabol, *Four Hundred Songs and Dances from the Stuart Masque* (Providence, RI: Brown University Press, 1978).

<sup>34</sup> **(1)** James L. Sanderson, *Sir John Davies* (Boston: Twayne Publishers, 1975). Page 20: "The study of law was enlivened—sometimes totally disrupted—by the lavish celebrations at Christmastime and by the entertainments which the affluent Readers [elected officers of the Inns who were senior lawyers with ten to twelve years of practice] were expected to provide during their terms of office. Feasts, dances, masques, receptions for important persons (including the monarch), and Saturnalian frolics brightly colored the life at the Inns. The law students were also noted for their literary interests, both as writers and readers... The drama had some of its most devoted supporters among these young students... they sometimes hired players, including Shakespeare's company, to perform on special occasions at the Inns" Pages 22-23: "...For a young man like Davies, writing poetry was an avocation, not an occupation or a way of life; it was one of the graces and amenities of social life, a gentlemanly accomplishment as desirable as the ability to ride and to handle a rapier. While writing poetry no doubt afforded its own immediate pleasure to a poet, in the sixteenth century it could have an important social utility not usually associated with today. It was an effective means of attracting attention, of displaying one's wittiness in a pungent epigram, or one's subtle sensitivity in a sugared sonnet. Furthermore, as a complement as part of some aristocratic entertainment, or as a significant work dedicated to someone of note, poetry was a means of promoting one's more serious career interest by winning the good will and, one hoped, the good offices of the powerful. As we shall see, much of Davies's poetry had such an extra-literary purpose, and effect." **(2)** For a description of the law students' revels see: Charlotte Carmichael Stopes, "The Earliest Official Record of Shakespeare's Name," in: *Jahrbuch de Deutschen Shakespeare-Gesellschaft 1896* (Vaduz: Kraus Reprint Ltd., 1963), 186-188. **(3)** "The Templars were agile dancers, and as such a delight to Queen Elizabeth.... With an ever-popular subject [dancing] Davies combined

an elaborate [poetic] complement to Queen Elizabeth.” See: Clare Howard, ed., *The Poems of Sir John Davies, Reproduced in Facsimile from the First Editions in the Henry E. Huntington Library and Art Gallery* (New York: Columbia University Press, 1941), 16. (4) See also: Walter Sorell, "Shakespeare and the Dance," *Shakespeare Quarterly*, Vol. 8, No. 3 (Summer, 1957), 367-384 (especially 370-371).

<sup>35</sup> (1) John William Hebel, and Hoyt H. Hudson, eds., *Poetry of the English Renaissance, 1509-1660* (New York: Printed for F.S. Crofts & Co., 1930), 965-966. The poem was entered into the Stationer's Register in 1594. (2) Emrys Jones, ed., *The New Oxford Book of Sixteenth Century Verse* (Oxford: Oxford University Press, 1991), 651-661. (3) Robert Krueger, ed., *The Poems of Sir John Davies, with Introduction and Commentary by the Editor and Ruby Nemser* (Oxford: Clarendon Press, 1975), 368. (4) John Davies, *Orchestra or a Poeme of dauncing Iudicially proving the true obseruation of time and measure, in the authenticall and laudable vse of dauncing* (London: I. Roberts for N. Ling, 1596), *EEBO* STC (2<sup>nd</sup> ed.) 6360-380-05, images 9 and 12, from the Henry E. Huntington Library and Art Gallery.

<sup>36</sup> John Upton, *Critical Observations on Shakespeare* (London: Printed for G. Hawkins, 1746), 343. The New York Public Library.

<sup>37</sup> Undated epigram: “To our English Terrence Mr. Will: Shake-speare / Epig 159 / Some say good *Will* (which I, in sport, do sing) / Hadst thou not plaid some Kingly parts in sport, / Thou hadst bin a companion for a *King*; / And, beene a King among the meaner sort. / Soe others raile; but raile as they thinke fit, / Thou hast no rayling, but a raigning Wit: / And honestly thou sow'st, which they do reape; / So, to increase their Stocke which they do keepe.” Lucy Toulmin Smith assigns a date of about 1611, see: Ingleby, C. M., et. al., eds., *The Shakspeare Allusion-Book: A Collection of Allusions to Shakspeare from 1591 to 1700*, Two Volumes, *Originally compiled by C. M. Ingleby, Miss Toulmin Smith, and Dr. F. J. Furnivall, with the assistance of the new Shakspeare Society: re-edited, revised and re-arranged, with an introduction, by John Munro (1909), and now re-issued with a preface by Sir Edmund Chambers*, vol. 1 (London: Humphrey Milford Oxford University Press, 1932), 219.

<sup>38</sup> Richard Edlyn, *Observations Astrologiæ, or an Astrological Discourse of the Effects of a Notable Conjunction of Saturn and Mars...to which is prefixed, a brief institution, or Tutor of Astrology...And also added, a most Ingenious Discourse of the True Systeme of the World* (London: Printed for J. W. for B. Billingsly and O. Blaggrave at the sign of the Printing Press at Broadstreet, 1668), Addendum, 25-26. *EEBO*, Wing (2<sup>nd</sup> ed.) E176, images 92-93, from the British Library.

<sup>39</sup> Francis Bacon, *The Tvvo Bookes of Francis Bacon, Of the proficiencie and aduancement of Learning, diuine and humane* (At London: Printed [by Thomas Purfoot and Thomas Creede] for Henrie Tomes at Graies Inne Gate in Holborne, 1605), *EEBO*, STC (2<sup>nd</sup> ed.) number 1164, from the Cambridge University Library. The Pierpont Morgan Library PML 37259, gift; Mr. Roland L. Redmond; March 1942.

<sup>40</sup> (1) Francis Bacon, *The Advancement of Learning*, ed. William Aldis Wright, fourth ed. (Oxford, Clarendon Press, 1891). (2) Francis Bacon, *The Advancement of Learning*: edited with introduction, notes and commentary by Michael Kiernan (Oxford: Clarendon Press, 2000).

<sup>41</sup> Bacon, *The Tvvo Bookes, The Second Booke*, leaf 118<sup>R</sup>, *EEBO* STC number 1164, image 169.

<sup>42</sup> James travelled to Denmark in 1589 to marry the Danish Princess Anne. The historians Steeholm report: “In order to have a long day with his noted host [Tycho], James arrived at eight in the morning. He spent seven hours, exploring the wonders of Uranianborg, listening to Tycho's exposition of the Copernican system, and marveling at his great globe, covered with parchment [on which globe Tycho plotted a star chart and astronomical findings], at the sextants, quadrants, and moving statues designed by the versatile scientist....It was an occasion of mutual pleasure and condensation. James felt that he honored Tycho by coming, and was honored himself by the pains which the savant took to explain his elaborate establishment....James promised Tycho a thirty-year copyright in Scotland for his writings....” Clara Steeholm and Hardy Steeholm, *James I of England, the Wisest Fool in Christendom* (New York: Covici-Friede, 1938), 131. See also: Christianson, *On Tycho's Island...*, 140-141.



<sup>43</sup> Bacon, *The Twvo Bookes...Second Book*, EEBO STC number 1164, image 82.

<sup>44</sup> Curiously, Bacon does not specifically mention the third theory considered by the astronomers of his day, that of Tycho Brahe. Apparently his purpose is simply to compare two central ideas: (1) the *Earth* moves and is peripheral (Copernicus), (2) the *Earth* immobile and is central (Aristotle and Tycho's modification). Both Aristotle and Tycho are subsumed by the term "...*Astronomy of diurnal Motion*."

<sup>45</sup> Bacon, *The Twvo Bookes...Second Book*, EEBO STC number 1164, image 83.

<sup>46</sup> Dan Hofstadter, *The Earth Moves: Galileo and the Roman Inquisition* (New York: W. W. Norton, 2009). On page 92, Hofstadter defines the technical meaning of *repugnance*: "...'repugnance' indicated resistance to being pulled in a direction opposed to the force of gravity." On page 171, he gives this example of *repugnance* as conversational usage: "After conversing with several cardinals, he [Galileo, at the start of his inquisitional trial] said, he had discovered that the Vatican regarded the Copernican system as 'repugnant to the Holy Scriptures, and admissible only *ex suppositone*, in the manner in which Copernicus himself took it.'"

<sup>47</sup> Bacon, *The Twvo Bookes...Second Book*, EEBO STC number 1164, image 103.

<sup>48</sup> Edlyn's defense of Copernicus, in "Chapter 4. *That the earth hath an annual and diurnal motion*" the term *SPIRAL* is used in the first argument [emphasis made **bold**]: "1. That hereby a needless multitude of orbes and motions are taken away [by the Copernican theory]... the Planets would move in such intricate **spires** and tortuous lines, as would not in any wise be conformable to the [Copernican] simplicity of motion ordained by the creator." Edlyn, *Observation Astrologiæ*, EEBO Wing (2<sup>nd</sup> ed.) E176, image 89. The absence of an explanation indicates that the term 'spiral' was commonly understood.

<sup>49</sup> (1) Kocher wrote on the clash between the Copernican *New Astronomy* and the religious dogma of Elizabethan England. He discussed the amount of time that was required before the *New Astronomy* became established—the extensive transition period that had to be passed through as the conflicts between religious absolutism and scientific proofs were reconciled: "We must not think of Copernicanism with all its accomplishments as decisively substituting a new truth for an old falsehood, forgetting that for nearly a hundred years after the publication of *De revolutionibus* (1543) confusion and uncertainty were the consequences to many minds." Paul Harold Kocher, *Science and Religion in Elizabethan England* (San Marino: Huntington Library, 1969), 59. Kocher's transition period of a hundred years places Shakespeare's *Hamlet* just at the mid-point of that process. (2) A half-century after the Nova of 1604 and the publication of Q2; forty years after Galileo's and Kepler's publications—at the far end of Kocher's transition period—very educated people still denied the veracity of the *New Astronomy*. One such individual was Lord Conway. Nicolson published a history of Anne, Viscountess Conway (1631-1679) and her learned circle of friends, based on a trove of preserved letters. Lady Anne was a brilliant and self-educated woman at a time when women were denied formal education. (Henry More and Francis Mercury van Helmont were amongst her circle of friends, confidants and correspondents.) Lady Anne maintained an active correspondence with her father-in-law, Lord Conway, who was on government assignment in France. In a letter to Lord Conway (which has not survived), she was probably promoting the Copernican theory to her father-in-law, because in his return letter dated July 8, 1651, he gives this opinion: "...Copernicus hath divers followers not because his opinion is true but because the opinion is different [meaning novel] from what all men in all ages ever had, for he hath not proved that there is any ill consequence by holding the Earth doth stand still and the heavens move... [and the Copernican theory is]... against the words of the Scripture directly to which he makes an answer seemingly faire, but altogether unwarrantable...." Marjorie Hope Nicolson, ed., *Conway Letters, the Correspondence of Anne, Viscountess Conway, Henry More, and their Friends, 1642-1684, Collected from Manuscript Sources and Edited with a Biographical Account* (New Haven: Yale University Press, 1930), 30-31. At this late stage in Kocher's "century of acceptance" there are thoroughly educated persons who reject the *New Astronomy*. The critical observation for this essay is that they were *knowledgeable* about the Copernican cosmology, even as they rejected it and remained Aristotelians.

<sup>50</sup> William Sloane Kennedy, "Shakespeare's Astronomy: Did He Ever Accept the Fact that the Earth Revolves on its Axis and Around the Sun?" *Poet-Lore* 1902 Vol. V, New Series [Whole Volume XIII], Boston:

Poet-Lore Co., 1902, 366-379. On page 375 and its footnote: "I imagine the deep-browed dramatist, the frequenter of the clubs and theatres, whose province was poetry and the human soul, looked into the domain of pure science with about the same sardonic amusement and cold distrust that Carlyle regarded Huxley's theories, or with the fiery scorn of Ruskin for Herbert Spencer. . . . That Shakespeare, however, did not know by sight Bacon and Harvey, and every other eminent scientist of the little London of his day, is simply impossible. London, with its population of 180,000, was then about the size of Boston, Mass., in 1860. To suppose that Shakespeare, the friend of Jonson and Southampton and Drayton, did not know (by sight at least) Bacon and Harvey, is to say that Longfellow and Lowell did not know Agassiz and Benjamin Peirce and Asa Gray. Or, if you seek to checkmate me with the supposed disrepute of the theater, I will say it were as if Walt Whitman should not have known Bryant and Dr. Binton and Horace Howard Furness, or that Edwin Booth and Mark Twain should not have known all their eminent contemporaries in New York City. If you can conceive Tennyson or Whitman or Longfellow totally ignorant of Agassiz and Darwin, perhaps you might believe Shakespeare equally uninformed about Copernicus and Galileo. The opportunities of society in London—the taverns, social gatherings, and Paul's Walk, taking the place of our journals—must have given Shakespeare just about the vague idea of Copernicanism that our daily papers give Whitman or Whittier of the doctrines of Darwin and Herbert Spencer,—if anything, a less distinct idea, but yet 'enough to swear by.'"

<sup>51</sup> Ibid. Here, the Aristotelian term "Globe" is the name of Shakespeare's theater.

<sup>52</sup> Thomas Warton, *The History of English Poetry* vol. 3 (London: J. Dodsley, J. Walter, J. Robson, G. Robinson, J. Bew and the Fletchers, 1781), 361-362. Columbia University, Rare Books and Manuscripts, Butler Library, call number 820.119 W26 Warton 1775, vol. 3, 1781.

## 5. MORTAL COIL

<sup>53</sup> Walter N. King, *Hamlet's Search for Meaning*, (Athens GA: The University of Georgia Press, 1982), 70. King advances the following argument [emphasis made **bold**]: "[In an analysis of Hamlet's]...reflection upon the human situation. Fully alive to his subject, he [Shakespeare] brings to the concept... [the concept being consideration of life and death]...**what in purely abstract language would appeal only to the philosophically acute mind.** Reconsideration of the first thirteen lines [of the soliloquy] from another perspective is accordingly the next step toward understanding of the soliloquy as a whole. To begin with, what is philosophically implicit in "to be" and "not to be"? **These infinitive forms are not original with Shakespeare**, but are translations of the Latin *esse aut non esse*, a taut philosophic formulation of an issue metaphysicians have wrestled with from ancient times down to our own era. There is also good reason to believe that in sixteenth-century England this metaphysical issue was debated by undergraduates seeking the B.A. degree in either of the two universities."

<sup>54</sup> McClure, *The Letters of John Chamberlain*, vol. 1, 150.

<sup>55</sup> William Warburton, ed., *The Works of Shakespeare*: vol. the eighth, *Hamlet* (London: Printed for J. and P. Knapton, 1747), 182. Morris Raphael Cohen Special Collections, Archives and Special Collections, The City College of New York, City University of New York, call number 3YFW W25.

<sup>56</sup> **(1) Thomas Kyd** used the word twice. **(1a)** The Spanish Tragedie, line 2139: "how now, what a noise? What coile is that you keepe?" **(1b)** Arden of Feversham, line 1389: "zounds, here's a coile!" See: Charles Crawford, ed., *A Concordance to the Works of Thomas Kyd* (Nendeln, Lichtenstein: Kraus Reprint, 1967 first edition 1901). See also: Thomas W. Ross, ed., *The Spanish Tragedy* (Berkeley: University of California Press, 1968). This critical edition contains a biography of Kyd and a comparison of his work to that of Shakespeare. In the Glossary, on page 123, Ross defines *coil...you keepe* as used by Kyd to mean: "Disturbance in which you are involved." **(2) Joshua Sylvester** used *coil* twice. **(2a)** The Map of Man, line 398: "Steal and conceale, and keep a coile." **(2b)** Bethulia's Rescue: line 301: "Who hath not heard of mighty *Sampson's Coile*,..." See: Alexander B. Grosart, ed., *The Complete Works of Joshua Sylvester: For the First Time Collected and Edited: with Memorial Introduction, Notes and Illustrations, Glossarial Index &c. &c.* [sic] *Portraits and Facsimiles, &c. Two Volumes*,

(Edinburgh: Printed for Private Circulation by T. A. Constable, 1880; reprinted New York: AMS Press, 1967), volume 2, pages. 100 and 183. **(3)** Mackay, in his *Glossary*, brings examples by Jonson, Shadwell and Suckling: **(3a)** You would not believe what a *coil* I had the other day, to compound a business between Katrine (Catherine) pear-woman and him about snatching.—**Ben Jonson**, *Bartholomew Fair*, act i, scene 4. **(3b)** They talk of wit, and this and that, and keep a *coyle* and pother about it.—**Shadwell**, *True Wisdom*. **(3c)** To see them keeping up such a *coil* about nothing.—**Suckling**. See: Charles Mackay, *A Glossary of Obscure Words and Phrases in the Writings of Shakspeare and his Contemporaries: traced etymologically to the ancient language of the British people as spoken before the irruption of the Danes and Saxons* (London: S. Low, Marston, Searle, and Rivington, 1887), 91-93.

<sup>57</sup> **(Table 1, Entry 4)** Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare*, vol. 12, *Much Adoe About Nothing*, second edition: (Philadelphia: J. B. Lippincott, 1900), 167 and. 273. **(Entry 5)** Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare*, vol. 9: *A Midsommer Nights Dreame* (Philadelphia: J. B. Lippincott, 1895, reprint 1955), 162. **(Entry 7)** Horace Howard Furness, Jr., ed., *A New Variorum Edition of Shakespeare*, vol. 19: *The Life and Death of King John* (Philadelphia: J. B. Lippincott Company, 1871; reprint 1955), 97. **(Entry 9)** Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare*, vol. 1: *Romeo and Juliet* (Philadelphia: J. B. Lippincott, 1871, reprint New York: Dover, 1963), 147. The Dover edition has the spelling as "coil."

<sup>58</sup> **(1)** Sir James Augustus Henry Murray, *The Evolution of English Lexicography, Romanes Lecture* (Oxford: Clarendon Press, 1900). **(2)** Simon Winchester, *The Meaning of Everything: the Story of the Oxford English Dictionary* (Oxford: Oxford University Press, 2003). This contains information about the early dictionaries which focused on the hard words. It is primarily a history of the *OED* and biographies of the editors who brought the first edition to completion.

<sup>59</sup> **(1) 1552** Sir Thomas Elyot, *Bibliotheca Eliotae = Eliotes dictionarie the second tyme enriched, and more perfectly corrected, by Thomas Cooper, schole maister of Maudlens in Oxforde* (Londoni: In aedibus T. Bertheleti, 1552 reprinted Delmar, NY: Scholars' Facsimiles & Reprints, 1975). **(2) 1604** Robert Cawdry, *A Table Alphabeticall Conteyning and Teaching the Tru Writing and Understanding of Hard Usual English Words, etc.* (London: Printed by I. Roberts, 1604). **(3) 1616** and **1621** John Bullokar, *An English Espositor: Teaching the Interpretation of the Hardest Words Used in our Language, with Sundry Explanations, Descriptions and Discourses* (London: Printed by John Legatt, imprints of 1616 and 1621). **(4) 1624** Henry Cockeram, *The English Dictionaire: or, an Interpreter of Hared English Words, etc.* (London: Printed by Eliot's Court Press, 1623). **(5) 1685** E. Coles, *An English Dictionary Explaining the Difficult Terms that are Used in Divinity, Husbandry, Physick, Philosophy, Law, Navigation, Mathematicks and Other Arts and Sciences Containing Many Thousands of Hard Words...* (London: Printed for Peter Parker, 1685).

<sup>60</sup> **(1) 1696:** The earliest definition found is in Phillips' dictionary which defines *coil* in one sentence as: "Noise, Clutter, Bustle, also the Breech of a Great Gun." Only one usage example is given: "To Coil a Cable (Sea-Phrase) to wind it about in the form of a Ring; the several Circles lying one upon another." Edward Phillips, *The New World of Words: or, Universal English Dictionary, Containing an Account of the Original or Proper Sense, and Various Significations of All Hard Words...*, (London: Printed for J. Phillips, 1706 first edition 1696). **(2) 1721:** Bailey's has been described as the most popular English dictionary before Johnson. It went through 33 editions by the end of the 1700's. *Coil* is defined as: "a Noise, clutter, Tumult; also the Breech of a great Gun." Two usage examples are given: "To keep a Coil, to make Noise Disturbance." "To Coil a Cable [Sea Term is to wind it about in the form of a ring, the several circles lying one upon another.]" Nathan Bailey, *Dictionarium Britannicum: or a More Compleat Universal Etymological English Dictionary than Any Extant, Contains Not Only Their Words and Their Explication...Also Explaining Hard and Technical Words, or Terms of Art, Sciences, and Mysteries...*, (London: T. Cox, 1736 first edition 1721). **(3) 1755:** Johnson's is noted for being the first dictionary to give usage examples drawn from the literature. *Coil* has two definitions: The primary definition is: "Tumult; turmoil; bustle; stir; hurry; confusions." The literary usage examples are three from Shakespeare, one of which is from *Hamlet*. A secondary definition is: "A rope wound into a ring." Samuel Johnson, *A dictionary of the English language: in which the words are deduced from their originals, and illustrated in their different significations by examples from the best writers. To which are prefixed, a history of the language, and an English grammar. By*

Samuel Johnson, *A.M.* In two volumes. ... (London: Printed by W. Strahan, for J. and P. Knapton..., 1755). *EECO* (Eighteenth Century Collections Online). Gale Document Numbers: CW3311285282 and CW3311952888.

(4) 1803: Entick's was first published earlier than the reviewed edition of 1803. Again, there are two definitions: "To roll up a rope, to wind up in a ring." "Tumult, bustle, stir, circle, breech of a gun." John Entick, *Entick's New spelling dictionary, teaching to write and pronounce the English tongue with ease and propriety: in which each word is accented according to its just and natural pronunciation; the part of speech is properly distinguished, and the various significations are in general ranged in one line: with a list of proper names of men and women: the whole compiled and digested in a manner entirely new, to make it a complete pocket companion for those who read Milton, Pope, Addison, Shakespeare, Tillotson, and Locke, or other English authors of repute in prose or verse: and in particular to assist young people, artificers, tradesmen, and foreigners, desirous of understanding what they speak, read, and write: to which is prefixed a grammatical introduction to the English tongue, and a catalogue of words but of different spellings and significations / by William Crakelt, M.A., rector of Nursted and Ifield, in Kent.* (London: Printed for J. Mawman, (successor to Mr. Dilly); G. and J. Robinson; W. J. and J. Richardson; F. and C. Rivington; R. Baldwin; W. Otridge and Son; J. Scatterd; T.N. Longman and O. Rees; Wynne and Scholey; J. Walker; H.D. Symonds; C. Law; T. Hurst; B. Crosby and Co.; and Darton & Harvey, 1803). (5) 1806: Browne's attempt at a concise synthesis of Johnson's and other dictionaries simply defines *coil* as "tumult, bustle" and "a rope wound into a ring." Thomas Browne, *The Union Dictionary Containing All That Is Truly Useful in the Dictionaries of Johnson, Sheridan, and Walker*, 2nd ed. (London: T. Davison, Printers, 1806). (6) 1828: Webster draws from Bailey and from Johnson, and adds the note that the term, in its second meaning, is no longer in use: "A rope gathered into a ring... 2. A noise, tumult, bustle. [Not used.]" Noah Webster, *An American Dictionary of the English Language* (New York: S. Converse, 1828). (7) 1831: Walker defines *coil*: "tumult, turmoil, bustle; a rope wound into a ring." John Walker, *A Critical Pronouncing Dictionary, and Expositor of the English Language* (New York: Collins and Hannay, 1831). (8) 1856: Wright defines *coil* with three meanings, the third being declared obsolete. "To gather, as a line or cord into a circular form; To wind into a ring, as a serpent or rope [followed by definitions of different kinds of rope coils]; A noise, tumult, bustle—obsolete in the last three senses. Thomas Wright, *The Universal Pronouncing Dictionary, and General Exposition of the English Language* (London: The London Printing and Publishing Company, 1856).

<sup>61</sup> (1) Three columns defining *coil* is found in the *NED*, the first great modern dictionary: James A. H. Murray (ed.), *A New English Dictionary on Historical Principles; Founded Mainly on the Materials Collected by the Philological Society*, Volume II C., Part I. C-Comm (Oxford: Oxford University Press, 1899). (2) The name was changed in 1933 after reprinting with supplements, to become the *OED*, *Oxford English Dictionary*. (3) The second edition of the *OED* was published in 1989. The definitions for *coil* in the *NED* are carried forward to the *OED* - second edition, and are referred to in this essay: James A. H. Murray, et. al., eds., *The Oxford English Dictionary - Second Edition, Volume III Cham-Creeky* (Oxford: Oxford University Press, 1989). (4) The same definitions for *coil* appear in: C. T. Onions, ed., *The Shorter Oxford English Dictionary on Historical Principles*, 3rd ed., revised 1959 with Addenda (1st. ed. 1933) (London: Oxford University Press, 1959 first published 1933).

<sup>62</sup> The online edition of the *OED* now omits the phrase 'sole usage' and reports three additional examples of 'mortal coil', but none are earlier or contemporary with Shakespeare. See: Second edition, 1989; online version March 2012. <<http://www.oed.com/view/Entry/35977>>; accessed 15 April 2012.

<sup>63</sup> John Dover Wilson and Harold Hannington Child, eds., *The Tragedy of Hamlet, Prince of Denmark*, [The Works of Shakespeare edited for the Syndics of the Cambridge University Press by John Dover Wilson] (Cambridge: University Press, second edition 1936 reprinted 1969), "Introduction," xxxiv, footnote 2 [emphasis made bold]: "'shuffle off' means 'shirk' or 'evade' (cf. *Tw. Nt.* 3.3.16); its modern sense of discombering oneself hastily of some garment or wrap is derived from *Hamlet*. **The original meaning of 'shuffle' is to 'shuffle with the feet' as one walks, and the image in Shakespeare's mind was, I think, that of the soul standing erect and freeing itself from the lifeless body which has fallen to the ground like a divested garment.**"

<sup>64</sup> Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare, Hamlet*, vol. I, *Text*, Eleventh Edition: (Philadelphia: J. B. Lippincott, 1877), footnotes, 210-211.

<sup>65</sup> James Orchard Halliwell-Phillips, *A Hand-book Index to the Works of Shakespeare, Including Reference to the Phrases, Manners, Customs, Proverbs, Songs, Articles, &c., Which are Used or Alluded to by the Great Dramatist* (London: J. E. Adlard, 1866), 94. Rare Books Division, New York Public Library \*KF 1866 (Halliwell), also AMS Press Inc. reprint 1975.

<sup>66</sup> Q2 is a script too long for the stage. I do not enter here into the argument that *Hamlet* Q2 was intended to be read and not played. See: Abraham Samuel Shiff, "Transition from Corambis to Polonius: the Forgotten Pun on a Diplomatic Scandal in a *Hamlet* Q2 Stage Direction," *Hamlet Works* <http://www.hamletworks.org> (under: *Hamlet Criticism*), 16.

<sup>67</sup> James Henry Hackett, *Notes and Correspondence upon Certain Plays and Actors of Shakespeare, with Criticism and Correspondence*, third ed. (New York: Carleton, 1864), "Hamlet's Soliloquy on Suicide," 20-21. Columbia University, Butler Library, Rare Books, call number PR3091.H3 Hackett 1864.

<sup>68</sup> Foxe, *Actes and monuments*, vol. 1, 207. The John Pierpont Morgan Library, PML 3201.

<sup>69</sup> Tiffany Stern, *Making Shakespeare: From Stage to Page* (London: Routledge, 2004), 146. "Even a play not adopted for strolling would be altered as topics of current interest changed.... Jokes, of course, stale quickly, and the subjects of jokes do not last. So a play would be regularly refreshed with the addition of new and topical references...."

## 6. STARS WITH TRAINS OF FIRE

<sup>70</sup> Horace Howard Furness, *Furness' Pocket Memo Notebook*, Annenberg Rare Books & Manuscripts, University of Pennsylvania, Ms. Coll. 485, Box 5, Folder 46, Hamlet Memoranda Notebook [vol. i].

<sup>71</sup> Samuel Daniel, *The Works of Samuel Daniel, Newly Augmented* (London, Printed for Simon Waterson, 1601) signa Liiii (unpaginated). EEBO STC 6236-985-02, image 165.

<sup>72</sup> Benjamin Jonson, *Seianvs his Fall, a Tragedie acted in the yeere 1603, by the K. Maiesties Servants, The Author B. I.* in *The Workes of Benjamin Jonson* (London: William Standsby, 1626), 420. EEBO STC (2<sup>nd</sup> ed.) 14751, image 224.

<sup>73</sup> Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare, Sixteenth Edition, Hamlet*, vol. Text, (Philadelphia: J. B. Lippincott, first edition 1877, 1918), 17-21.

<sup>74</sup> "...and dews of blood." For rains of blood and dew covering trees and fields associated with the appearance of a comet see a 1658 publication by an anonymous author: *The Most True and Wonderfull Relation of a Starre of a great Magnitude...* (London, Printed for F. Coles dwelling in the Old-Baily, 1658), signa A2. EEBO, Anon-The\_Most\_true\_and\_wonderfull\_relation-Wing-M2927\_2612\_13-p1to5.pdf, image 2.

<sup>75</sup> **Comet** and **meteor** as understood by modern astronomy: **Comet:** Very simply, a comet is a consolidated agglomeration of non-luminous matter, clumped together to form a mass, that circles the sun in a very elliptical orbit; mostly far from the sun, sometimes close to it. The clumped material forms the *nucleus* of the comet. Periodically, whenever the orbiting nucleus nears the sun, the sunlight's energy sublimates material from the *nucleus*'s surface, to form an enveloping "cloud" termed the *coma*. The *coma* reflects sunlight, making it visible from the earth. The orbiting comet is thus seen to move across the sky. The *tail* of a comet is a stream of debris trailing the *nucleus*, which also becomes visible by reflected sunlight. A comet manifests itself in many kinds of changeable shapes and colors, usually with a single tail, other times with several tails, or with a barely visible tail. The duration of time it remains visible is highly variable, depending upon the size of the *coma* and its orbit. **Meteor:** The earth in its orbit may intersect a comet's trailing fragments, or any other debris in space. Upon entering the earth's atmosphere the fragments and debris ablate and glow from friction, and are perceived as *meteors*. See: (1) Roberta J. M. Olson, *Fire and Ice: A History of Comets in Art* (New York: Walker Publishing Co.,

1985). (2) Roberta J. M. Olson and Jay M. Pasachoff, *Fire in the Sky: Comets and Meteors, the Decisive Centuries, in British Art and Science* (Cambridge: Cambridge University Press, 1998).

<sup>76</sup> Thomas Twyne, *A view of certain wonderful effects...of the comete, or blasing star...1577* ([London: by J. Charlewood for ] Richarde Jhones, 1578). *EEBO* STC / 23629. images 4, and 9, copy from the British Library, shelf mark, General Reference Collection 1395.c.3. In the British Library catalog the author is listed as TT[wyne]..

<sup>77</sup> (1) Von einem schrecklichen und wunderbarlichen Cometen so sich den Dienstag nach Martini dieses lauffenden M. D. LXXVIJ. Jahrs am Himmel erzeiget hat . Gedruckt in der alten Stadt Prag : durch Georgium Jacobum von Datschitz, [1577]. By permission of the Zentralbibliothek Zürich, Graphische Sammlung und Fotoarchiv. (2) Also reproduced in: Roberta J. M. Olson, *Fire and Ice: A History of Comets in Art* (New York: Walker Publishing Co., 1985.), 43. Note that the comet is depicted as a six-pointed star trailing a tail across the entire sky. On page 45 of her book Olson reports the following, which is a measure of the concern comets engendered: "The *Comet of 1577* was also discussed in such a flood of treatises that it took one scholar over one hundred pages to compile a bibliographical list of them." (3) Olson must be referring to: C. Doris Hellman, *The Comet of 1577: Its Place in the History of Astronomy*, (New York, Columbia University Press, 1944, reprint New York: AMS Press, 1971). The appendix of Hellman's work enumerates in bibliographical detail all known publications contemporary with the *Comet of 1577*. This particular woodcut is described by Hellman on page 347 as "item 30a." The woodcut is "colored," which is not reproduced in Olson. Other illustrations in Olson's work reproduce the colors of comets as depicted by artists who observed them.

<sup>78</sup> John Bainbridge, *An Astronomicall Description of the late Comet...1618* (London: Printed by Edward Griffin for Henry Featherstone, 1618), pages 4, 5, 8 and 21; *EEBO* STC 1207-692\_06, images 9, 11 and 17.

<sup>79</sup> John Bainbridge, *An Astronomicall Description of the late Comet...1618* (London: Printed by Edward Griffin for Henry Featherstone, 1618), title page. Columbia University, Butler Library, Rare Books and Manuscripts, call number: Smith 523.1619.B16. The exquisite detail of the 'eye' is barely discernible in the *EEBO* images of the title page.

<sup>80</sup> William Lilly, *Mr Lillies New Prophecy of the White-Easter and its Effects. With an Account of the new Blazing-Star...* (London: Printed for Phillip Brooksly, 1673). *EEBO* Wing (2<sup>nd</sup> ed) / L2234. National Library of Scotland, shelfmark 1.129(5)(AH). Email from Dr. Anette I. Hagan, Senior Curator, Rare Book Collections, National Library of Scotland, 14 June 2012: "In the case of *Mr. Lillies New Prophecy of the White Easter*,... the original title page is not what you would call superior. It has black ink stains dotted about, and is covered to a considerable degree in other smudges and stains simply through wear and tear...."

<sup>81</sup> *An Exact representation of the late comet, or blazing-star which appeared in Hamburg this year, 1677...* ([London] In the Savoy: Printed by T.N. for Jonathan Edwyn, 1677). *EEBO* Wing-E3703-1716-05-p1o1, copy from the Bodleian Library. The rightmost column of the broadsheet, third paragraph from the top, identifies the NEW STAR of 1572 as being a COMET [emphasis made bold]: "**A.C. 1572. And 1577. The two Comets** then appearing, portending the ensuing War between *Spain*, and *England* and *Holland*; not to mention the broils and miseries which *Germany* then groaned under...." Curiously, in this history of COMETS the NEW STAR of 1604 is not listed.

<sup>82</sup> Eugeniusz Rybka, *Four Hundred Years of the Copernican Heritage* (Cracow: Jagellonian University, 1964), 144.

<sup>83</sup> F. Richard Stephenson and David H. Clark, "Historical Supernova," *Scientific American*, vol. 234, no. 6 (June, 1976), 105.

<sup>84</sup> For a more detailed explanation for the non-astronomer, see: (1) William Charles Straka, *The Supernova: a Stellar Spectacle: a Curriculum Project of the American Astronomical Society* (Washington: National Aeronautics and Space Administration: Supt. of Docs, U.S. Govt. Print. Off., 1976). (2) F. Richard Stephenson and David H. Clark, "Historical Supernova," *Scientific American*, 234, no. 6 (June, 1976): 100-107. (3) Marcus Chown,

"Odd One Out There," *New Scientist* No. 2477 (Dec. 11, 2004): 33-35. About the *Nova of 1604*. (4) Yudhijit Bhattacharjee "How Do Stars Explode," *Science*, vol. 336 (1 June 2012), 1094-1095.

<sup>85</sup> F. Richard Stephenson and David A. Green, "Historical Supernovae" in *1604-2004 Supernovae as Cosmological Lighthouses*, Astronomical Society of the Pacific Conference Series, 342 (2005): 63. The preface advises (page xiii) that since 1604 the only supernova visible to the naked eye occurred in 1987. Known as 1987a, this object was visible only from the southern hemisphere.

<sup>86</sup> (1) For a review of Brahe's observations and the conclusions drawn by the observers of the 1604 nova, see the various articles in: *1604-2004 Supernovae as Cosmological Lighthouses*, Astronomical Society of the Pacific Conference Series, 342, (2005). Although this publication contains many very technical articles, the four listed below are accessible to the layman: (1.1) O. Gingerich, "Tycho Brahe and the *Nova of 1572*," 3-12. (1.2) M. A. Granada, "The Discussion between Kepler and Roeslin on the *Nova of 1604*," 30-42. (1.3) A. Lombardi, "Kepler's Observations of the *SuperNova of 1604*," 21-29. (1.4) W. Shea, "Galileo and the Supernova of 1604," 13-20. (2) For a translation of writings attributed to Galileo about the *Nova of 1604*, and the comments of his contemporaries, see: Stillman Drake, ed., *Galileo against the Philosophers in his Dialogue of Cecco di Ronchitti (1605) and Considerations of Alimberto Mauri (1606): in English translations* (Los Angeles: Zeitlin & Ver Brugge, 1976). Translated by Stillman Drake.

<sup>87</sup> (1) For a comprehensive review of Tycho Brahe's publications about the new star, see: John Louis Emil Dreyer, *Tycho Brahe: a picture of scientific life and work in the sixteenth century* (Edinburgh, A&C Black, 1890), Chapter III, "The New Star of 1572," 38-69, and "Chapter VIII "Further Work on the Star of 1572," 186-197. (2) For a Latin edition of Tycho's observations of the new star and the comet of 1577, published with the reports of contemporary astronomers, see: Tycho Brahe, *Tychonis Brahe Mathim: Eminent Dani Opera Omni, Astronomiæ Instauratæ Progymnasmata, in duas partes distributa, Qvorum Prima de Restitvione Motvum solis & lunæ, stellarum'q; inerrantium tractat. Secvnda avtem de mvndi ætherei recentioribus phænomensis agit.* (Francfvrti: Impensis Ioannis Godofredi Schönvvettei, 1648). Columbia University, Butler Library, Rare Books, call number B520.8 B73 Brahe.

<sup>88</sup> (1) Tycho Brahe, *Tychonis Brahe Dani, die XXIV Octobris A. D. MDCL. Defuncti, Operum Primitias. De Nova Stella. Summi ivis Memor de Nuo Edidit. Regia Societas Scientiarum Danica. Insunt Effigies et Manus Specimen Tychonis* (Copenhagen: Hauniae, 1901). The star chart is on signa B<sup>V</sup> of the reproduction of Tycho's Latin report. (2) A 1610 posthumous publication of Tycho Brahe's correspondence about the nova does not have this image. See: Tycho Brahe, *Tychonis Brahe Dani, Epistolarum Astronomicarum Libri* (Frankfurt: apud Godensridum Tampachium, 1610). Both in the Rare Book Division, The New York Public Library.

<sup>89</sup> Tycho Brahe, *Learned: Tico Braheæ, his Astronomicall Coniectur of the new and much Admired* [symbol of an eight-pointed star] *Which Appered in the year 1572* (Printed at London by BA and TF for Michaell Sparke and Sameull Nialand, 1632). Facsimile reprinted: Tycho Brahe, *His Astronomicall Coniectur of the New and Much Admired* [five-pointed star] *which Appered in the Year 1572*, (Da Capo Press, Theatrvm Orbis Terrarvm Ltd, Amsterdam 1969), pages 3, 4, 5, 10, 15, 16, 24. This is a reprint of STC No. 3538, Bodleian Library, Oxford.

<sup>90</sup> James VI of Scotland, *His Maiesties Poeticall Exercises at Vacant Houres* (At Edinburgh: Printed by Robert Walde-graue, Printer to the Kings Maiestie, 1591). The John Pierpoint Morgan Library, PML 6218.

<sup>91</sup> James VI of Scotland, *The Basilicon Doron of King James VI, with an introduction, notes, appendices, and glossary*, ed. James Craigie, vol. I – (Text) (Edinburgh: Printed for the [Scottish Text] Society by William Blackwood & Sons, 1944), page 20 of the Waldegrave 1603 edition.

<sup>92</sup> Thomas Digges, *ALÆ SEV SCALÆ: Mathematicæ, quibus visibilium remotissima Cælorum Theatra conscendi, & Planetarum omnium itinera novis & inauditis Methodis explorari : tum huius portentosi Syderis in Mundi Boreali plaga insolito fulgore coruscantis, Distantia, & Magnitudo immensa, Situsq; protinus tremendus indagari, Dei; stupendum ostentum, Terricolis expositum, cognosi liquidissimè possit.* (Londoni: [Apud Thomam Marsh], 1573). Rare Book Room, New York Public Library, call number \*KC 1573 (Digges).

<sup>93</sup> Lynn Thorndike, *A History of Magic and Experimental Science*, vol. 6, *The Sixteenth Century* (New York: Columbia University Press, 1941; fourth edition: 1966), 73.

<sup>94</sup> Henry Howard, Earle of Northampton, *A Defensative Against the Poyson of Supposed Prophecies*, (London: Iohn Charlewood, 1583), title page. *EEBO*, STC 13858-548\_11, image 1, from the Henry E. Huntington Library and Art Gallery.

<sup>95</sup> (1) For the belief in astrology by the educated Elizabethans, see: Lauren Kassell, *Medicine and Magic in Elizabethan London – Simon Forman: Astrologer, Alchemist, and Physician* (Oxford: Clarendon Press, 2005). (2) A century later, the Frenchman Pierre Bayle was prompted to write about the appearance of a comet because of the effect on the public [emphasis made **bold**]: “I was philosophy professor in Sedan when the Comet appear’d in December 1680 and found myself eternally teased with Questions about it, proceeding from Peoples Curiosity or **their Fears. I did all I could to recover those who were disturbed at this pretended ill Presage, but gained very little on them by mere Philosophical Reasons**; still they answered, that God certainly exposed these awakening Phenomena on purpose to give Sinners time to prevent by Repentance the Evils which hung over their Heads....” Pierre Bayle, *Miscellaneous Reflections Occasion’d by the Comet which appeared in December 1680, in two volumes*, vol. 1 (London: printed for F. Morphew, 1708), “The Author’s Preface,” v-vi. Columbia University, Butler Rare Books, call number 843.B34 U53 (Bayle 1708).

<sup>96</sup> Northampton, *A Defensative...*, leaf V.[i]<sup>V</sup>. *EEBO*, image 89.

<sup>97</sup> Heydon, *A Defence of Ivdicial Astrologies...*, 124. *EEBO* STC-13266, image 74.

<sup>98</sup> Hasegawa, "Catalogue of Ancient and Naked-Eye Comets," *Vistas in Astronomy* 24, (1980): 59-102. Hasegawa tabulates comets reported in the chronicles of Europe, China, Japan and Korea. In “Table 1, List of Naked Eye Comets,” on pages 85-86, he reports twelve observed in Europe: 1573, 1577, 1578, 1579, 1580, 1581, 1582 March and May, 1585, 1590, 1593 and 1596.

<sup>99</sup> Christianson, *On Tycho’s Island: ...*, 275.

<sup>100</sup> Shea, "Galileo and the SuperNova of 1604," 15.

<sup>101</sup> Max Casper, *Kepler*: Translated and edited by C. Doris Hellman (London: Abelard-Schuman, 1959), 154.

<sup>102</sup> Lombardi, "Kepler's Observations of the SuperNova of 1604," 25.

<sup>103</sup> Walter Baade, “Nova Opiuchi of 1604 as a Supernova,” *Astrophysical Journal* (vol. 97, 1943), 119-127; reprinted as: *Contributions from the Mount Wilson Observatory*, No. 675, pages 1 and 7 of the reprint.

<sup>104</sup> (1) Johannes Kepler, *De Stella Nova in pede Serpentarii*. (Pragæ: Pauli Sessii, 1606), insert between pages 76-77. The *Nova* is labeled "N" at the right ankle of the image of a man, the serpent-bearer *Opihiuchus*, grasping the serpent. The nova is larger than any other star to depict its relative greater luminosity. Science, Industry and Business Library, The New York Public Library, call number OTO (Kepler, J. De Stella Nova Impede Sepentaari). (2) This image also reproduced in: Johannes Kepler, *Johannes Kepler Gessamelte Werke Band 1 Mysterium Cosmographicum, De Stella Nova*, ed. Max Caspar (München: C. H. Beck'sche Verlagsbuchhandlung, 1937), inserted opposite page 226.)

<sup>105</sup> (1) Kepler, *De Stella Nova in pede Serpentarii...*," 92-97. (2) Kepler, *Johannes Kepler Gessamelte Werke*, Band 1 ..., 242-245.

<sup>106</sup> Charlton T. Lewis and Charles Short, *Harper's Latin Dictionary* (New York: American Book Company, 1907), 790 and 1613.



<sup>107</sup> Johannes Kepler, *The Harmony of the World*: Translated into English with an Introduction and Notes by E. J. Alton, A. M. Duncan, J. V. Field ([Philadelphia PA]: The American Philosophical Society, 1997), 4.

<sup>108</sup> Johannes Kepler, *Harmonice mvndi* (Linz: Johannnes Planck, 1619). In the "Dedicatio" to King James, the leaves are not numbered nor are there any indications of gathering sequence. By count the quotation is on page 3. In the holdings of the Science, Industry and Business Library, The New York Public Library.

<sup>109</sup> Sir Hugh Plat, *A new cheape and delicate Fire of Cole-balles, wherein Seacole is by the mixture of other combustible bodies, both sweetened and multiplied* (London: Peter Short, 1603). A pamphlet that describes coal used for domestic purposes.

<sup>110</sup> Lewis and Short. *Harper's Latin Dictionary*, 155.

<sup>111</sup> Warton, *History of English Poetry*, vol. 2, 229.

<sup>112</sup> Ibid. Vol. 3, "A Dissertation on the Gesta Romanorum," xlii.

<sup>113</sup> Ibid. Vol. 3, 410.

<sup>114</sup> Bernice W. Kliman and Paul Bertram, eds., *The Three-Text Hamlet: Parallel Texts of the First and Second Quartos and First Folio*, second edition, revised and expanded (New York: AMS Press, 2003).

<sup>115</sup> Ibid., 4.

<sup>116</sup> Donald W. Olson, Marilyn S. Olson, and Russell L. Doescher, "The Stars of *Hamlet*: Shakespeare's astronomical inspiration?" *Sky & Telescope*, vol. 96. no. 5 (November 1998): 68-73.

<sup>117</sup> Abraham Samuel Shiff, "Transition from Corambis to Polonius: the Forgotten Pun on a Diplomatic Scandal in a *Hamlet* Q2 Stage Direction," *Hamlet Works* <http://www.hamletworks.org> (under: *Hamlet Criticism*), 36-39.

<sup>118</sup> Kliman and Bertram, *The Three-Text Hamlet*, 4.

<sup>119</sup> Ibid., 10.

<sup>120</sup> (1) Thomas Dekker, *The Plague Pamphlets of Thomas Dekker*, ed. F. P. Wilson (Oxford, Clarendon Press, 1925). Wilson's notes are important commentary. (2) J. F. D. Shrewsbury, *A History of Bubonic Plague in the British Isles* (Cambridge: University Press, 1970). The plague deaths in 1603-London was 32,754. See the chart on page 267.

## APPENDIX A: Twelve Scholars Explain *Coil*

<sup>121</sup> Robert Nares, *A Glossary; or, Collection of Words, Phrases, Names, and Allusions to Customs, Proverbs, etc., Which Have Been Thought to Require Illustration, in the Words of English Authors, a New Ed., with Considerable Additions Both of Words and Examples, by James O. Halliwell. Particularly Shakespeare, and his Contemporaries* (London: J. R. Smith, 1859), 177. The New York Public Library, call number \*NCM (Nares).

<sup>122</sup> James Orchard Halliwell-Phillips, *A Hand-book Index to the Works of Shakespeare, Including Reference to the Phrases, Manners, Customs, Proverbs, Songs, Articles, &c., Which are Used or Alluded to by the Great Dramatist* (London: J. E. Adlard, 1866), 94. Rare Books Division, The New York Public Library \*KF 1866 (Halliwell); also AMS Press Inc. reprint 1975.

<sup>123</sup> Alexander Dyce, *A General Glossary to Shakespeare's Works* (Boston: Dana Estes, 1901), 148-149. This is a reprint. First publication date *circa* 1867.

<sup>124</sup> Horace Howard Furness, ed., *A New Variorum Edition of Shakespeare*, Eleventh Edition: *Hamlet*, vol. I, *Text*, (Philadelphia: J. B. Lippincott, 1877), 210-211. In vol. II, *Appendix*, Furness presents selected extracts from the writings of over 140 pre-1877 scholars. None analyze *coil*. As to the possibility that the word *coil* is a corruption introduced by a compositor's error, Kellner's analysis does *not* include this word as a candidate for a typesetter's mistake. Leon Kellner, *Restoring Shakespeare: A Critical Analysis of the Misreadings in Shakespeare's Works*, (New York: Knopf, 1925).

<sup>125</sup> Annenburg Rare Book Room of the Library of the University of Pennsylvania, June 23, 2008.

<sup>126</sup> Charles Mackay, *A Glossary of Obscure Words and Phrases in the Writings of Shakspeare and his Contemporaries: traced etymologically to the ancient language of the British people as spoken before the irruption of the Danes and Saxons* (London: S. Low, Marston, Searle, and Rivington, 1887) 91-93. The New York Public Library, call number \*NCW (Mackay 1887). [Emphasis made **bold**]: COIL. In modern English, *coil*—derived from the French *cueillir*, to pluck or gather, and from the Latin *colligere*—signifies, to gather a rope into a circular heap, to twist round; whence the *coil* of a serpent. But with the Elizabethan writers the word signified tumult, confusion, entanglement, difficulty. Johnson derives it from the German *Koller*, rage, madness, which is nothing but the Teutonic form of the French *colère*, anger; but Nares, very properly dissatisfied with this explanation, declares the word to be of "very uncertain derivation." "This *coil* would not affect his reason."—*Tempest*, act i, scene 2. "You would not believe what a *coil* I had the other day, to compound a business between Katrine (Catherine) pear-woman and him about snatching."—Ben Jonson, *Bartholomew Fair*, act i, scene 4. "They talk of wit, and this and that, and keep a *coyle* and pother about it."—Shadwell, *True Wisdom*. "To see them keeping up such a *coil* about nothing."—*Suckling*. "There's a great *coil* to-morrow."—*Much Ado about Nothing*. The true etymology of *coil* in this sense—which does not appear in modern dictionaries, having become obsolescent, if not entirely obsolete—is the Keltic [*sic*] *coile*, violent movement; *coileid*, noise, strife, stir, movement; akin to *goil*, to gurgle and bubble like boiling water; *coilideach*, noisy, stirring, confused, tumultuous. Shakespeare uses this word in two different senses—that of a *coil* of rope, gathered into a circle to prevent entanglement; and in that of noise, uproar, or disturbance. In the beautiful soliloquy of Hamlet upon death, *coil* is used in a manner suggestive of a meaning different from that of a gathering of rope into a circular form, or from that of a noise or disturbance:—"To die! To sleep? / To sleep, perchance to dream; Ay, there's the rub, / For in that sleep of death what dreams may come / When we have shuffled off this mortal *coil*?" Act iii, scene 1. Possibly the metaphor may mean, that in this life we are bound as in a coil of rope, and that death enables us to shuffle off the restraint; or "mortal coil," may signify the struggle and strife with care and sorrow, that disturb the peace of all who live; **though "shuffle off" is scarcely a phrase that aptly accords with the metaphor**. *Cochull* or *cochuill*, in Keltic, signifies a husk, a shell, the outer covering—in which the guttural *ch* is scarcely pronounced, or is shortened into the English *coil*—a very near approach to the Keltic, *co-huil*. In this case the metaphor would be both beautiful and appropriate, comparing the body to the mortal husk or shell of the immortal spirit; which Death enables us to shuffle off, as the grub shuffles off the husk and shell of its cocoon, and soars aloft in the upper air on wings, the emblem of the soul.

<sup>127</sup> Alexander Schmidt, *Shakespeare-Lexicon; a Complete Dictionary of all the English Words, Phrases and Constructions in the Works of the Poet*, 4th ed. rev. and enl. by Gregor Sarrazin (Berlin: W. de Gruyter & Co., 1874 fourth edition, 1902).

<sup>128</sup> C. T. Onions, ed., *A Shakespeare Glossary - Second Edition, Revised* (Oxford: Clarendon Press, 1953 first edition 1919).

<sup>129</sup> Richard John Cunliffe, *A New Shakespearean Dictionary* (London: The Gresham Publishing Company, 1922 reprint Folcroft, PA: Folcroft Library Editions, 1971), 55.

<sup>130</sup> Kenneth Myrick, "Kittredge on Hamlet," *Shakespeare Quarterly*, Vol. 15, No. 2 (Spring, 1964), 219-234. In this paper outlining Kittredge's interpretation of *Hamlet*, Myrick, a former student, described his teacher's preeminence as an authority: "[He] was for most of his long career generally regarded as the country's most

distinguished Shakespeare scholar and teacher. Legends grew up about him...rumor had it that if all existing copies of Shakespeare were destroyed, nothing would be permanently lost, for Professor Kittredge would reproduce every play and poem verbatim.”

<sup>131</sup> George Lyman Kittredge, ed., *The Complete Works of Shakespeare* (Boston: Ginn, 1936), 1533.

<sup>132</sup> Kitteridge Lecture: Jerome Tanenbaum, a student at Harvard (Class of 1907), attended Professor Kittredge's course on Shakespeare in 1906. The text used was: William J. Rolfe, ed., *Shakespeare's Tragedy of Hamlet*, (New York: Harper & Brothers, 1898 edition). Mr. Tanenbaum's marginalia reflect Kittredge's classroom expositions. The marginal note adjacent to *coil* has: “Coil common meaning & also meant turmoil, get rid of entangling turmoil of this life. Shuffle suggests entanglement.” The book was in the personal library (now dispersed) of Jerome's son, Mr. Charles Tanenbaum, who brought his father's note to my attention and graciously granted permission to quote it.

<sup>133</sup> Eugene F. Shewmaker, *Shakespeare's Language: a Glossary of Unfamiliar Words in Shakespeare's Plays and Poems* (New York: Facts On File, 1996), 84.

<sup>134</sup> David Crystal and Ben Crystal, *Shakespeare's Words: A Glossary and Language Companion* (London: Penguin Books, 2002), 82.

<sup>135</sup> Ann Thomson and Neil Taylor, eds., *Hamlet* (London: Arden Shakespeare, 2006), 285.

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