Laura Orsi*
Franklin University Switzerland, Lugano (Switzerland)
Scuola Superiore per Mediatori Linguistici, Padova (Italy)

Stars and Comets in Shakespeare

"*Cométa*, a comet, a blazing star."

"*Stella*, a starre, any of the celestial bodies
that give light unto the world, used also
for a destinie, a fate, an astera planet.
Also a chip or speit such as carpenters
make in hewing of timber.
Also a starre-fish, or five-foote."

John Florio, *A Worlde of Wordes* (1598), pp. 153 and 684.[1]

Shakespeare's attitude towards the new astronomy has received limited attention compared to other Shakespearean fields of study. Quite emblematically, there is no mention of Shakespeare in Grant McColley's "An Early Poetic Allusion to the Copernican Theory" (1942).[2] A generation later, in "The Astronomy of Shakespeare" (1964) W. G. Guthrie's identifies Shakespeare as a Ptolemaic, maintaining that Shakespeare's England was impermeable to Copernicanism:

(*) I wish to thank Professor Cesare Barbieri for inviting me to the Rosetta to Giotto conference held in Padua on 27-29 Oct. 2016. I am grateful for the extraordinary opportunity I had to share my Shakespeare's views with illustrious astronomers. Warm thanks also go to Anne Kim Barchi for her precious editorial assistance and to Marco Caroli for his no less precious support through the publication.

(1) John Florio, *A Worlde of Wordes*, London, A. Hatfield for Edw. Blount, 1598; modern edition: *John Florio: A Worlde of Wordes*, A Critical Edition with an Introduction by H.G. Haller, The Lorenzo Da Ponte Italian Library, Toronto-Buffalo-London, University of Toronto Press, 2013. The original edition is also available in the web: www.pbm.com/~lindahl/florio1598/.

(2) Grant McColley, *An Early Poetic Allusion to the Copernican Theory*, «Journal of the History of Ideas», vol. 3 no. 3 (Jan. 1942), pp. 355-357.

Until the time when Galileo began to make telescopic observations, about 1610, the theory seemed to be mere speculation, contrary to common sense, and totally unsupported by any solid factual evidence. The Ptolemaic theory still held strongly on a basis of religious dogma and common sense, while the Copernican doctrine, acceptable only to a few of the more daring intellectuals, had yet to prove its power and its worth.

It is not surprising, then, that in his writings Shakespeare adheres to the Ptolemaic doctrine and refers to a fixed earth as the centre of the universe.[3]

The notion that England was slow accepting Copernicanism was actually mitigated by Frances A. Yates in her "Giordano Bruno's Conflict with Oxford" (1939).[4] From Yates' study it emerges that in Bruno and Shakespeare's time Oxford offered courses that included Copernicus. If even post-Reformation Oxford included Copernicus in its curriculum, how could Shakespeare be a Ptolemaic? Perhaps more perplexing is the thought that Shakespeare may have been indifferent to the new science, yet this is the viewpoint of the educational *The Scientific Revolution: An Encyclopedia* of 2001: "Shakespeare took almost no interest in science".[5] From the literary side, in the same year William C. Carroll in *Goodly Frame, Spotty Globe: Earth and Moon in Renaissance Literature* expressed an accepted perspective concerning Galileo's impact on Shakespeare's output: "Shakespeare was still writing plays when news of the Galileian discoveries reached England, but there is no evidence that he was moved by this revolutionary knowledge, and he retired from the stage in 1613".[6]

Interdisciplinary work (ideally in team work) is vital for understanding Shakespeare and the Renaissance. In her *Shakespeare's Last Plays: A New Approach* (1975) Yates has offered an inspirational study of Shakespeare's connection with the exoteric astrological world of his

(3) W.G. Guthrie, *The Astronomy of Shakespeare*, «Irish Astronomical Journal», vol. 6 (6), 1964, pp. 201-210 (201).

(4) Frances A. Yates, *Giordano Bruno's Conflict with Oxford*, «Journal of the Warburg Institute», vol. 2, no. 3 (Jan. 1939), pp. 227-242.

(5) William E. Burns, *The Scientific Revolution: An Encyclopedia*, Santa Barbara, CA, abc-clio, 2001, p. 171.

(6) William C. Carroll, *Goodly Frame, Spotty Globe: Earth and Moon in Renaissance Literature*, in Cesare Barbieri-Francesca Rampazzi, eds, *Earth-Moon Relationships, Proceedings of the Conference held in Padova, Italy at the Accademia Galileiana di Scienze Lettere ed Arti*, November 8-10, 200, reprinted from *Earth, Moon, and Planets*, vols 85-86, Nov. 1-3, 1999 (publ. in 2001), Dordrecht, Boston, London, Kluwer Academic Publishers, 2001, pp. 5-23 (5).

time represented by John Dee (1527-1608) and the so-called "Rosicrucian movement". Yates was also the author of a fascinating intellectual biography of Bruno (1548-1600), *Giordano Bruno and the Hermetic Tradition* (1964) in which Bruno's Copernicanism is reevaluated from a Hermetic tradition perspective. A stimulus for the study of Shakespeare's Copernicanism could have come from Yates' studies. A bias towards Renaissance philosophy is probably what hindered further research on the subject.

We owe to astronomer Peter Usher a new perspective on Shakespeare. His studies began in the mid-1990s and took book form starting about ten years ago.[7] In *Hamlet's Universe* (2006), *Shakespeare and the Dawn of Modern Science* (2010) and *Shakespeare and Saturn: Accounting for Appearances* (2015) Usher argues that Copernicanism *is* present – by means of ambiguity – in Shakespeare's theatre and that this applies also to works written prior to Galilei's planetary discoveries.[8] So far Usher has devoted extensive attention to, besides *Hamlet* (publ. 1603), *A Midsummer Night's Dream* (publ. 1600), *All's Well That Ends Well* (publ. 1623), *Much Ado about Nothing* (publ. 1623) and *The Comedy of Errors* (publ. 1623). His most thought-provoking hypothesis is that *Hamlet* is an extended allegory in which Shakespeare enacts an astronomical confrontation among the four astronomical schools of thought active at the time.[9] Bruno appears as the missing link in Usher's studies; his inclusion would give us a yet more intriguing perspective.

Why did the "Shakespeare world" not sense that Shakespeare could not have possibly ignored or felt indifferent to the new astronomy, and why is Usher's research not included yet in Shakespeare's literary studies and biographies published on the occasion of Shakespeare's "450th birthday" (2014) and "400th anniversary" (2016)? The answer seems to be one of "unrecognized identity". The majority of Shakespeare's scholars do not recognize or admit that there is an identity question underlying the authorship question, which they also try to

---

([7]) Peter Usher, *Shakespeare's Cosmic World View*, «Mercury», vol. 26, 1 (Jan.-Feb. 1996), pp. 20-23. Id., *Advances in the Hamlet Cosmic Allegory*, «The Oxfordian», vol. 4 (2001), pp. 25-49 (http://www2.astro.psu.edu/users/usher/ox.html); Id., *Shakespeare's Support for the New Astronomy*, «The Oxfordian», vol. 5 (2002), pp. 132-146 (http://www.shakespearedigges.org/ox2.htm).

([8]) Usher, *Hamlet's Universe*, Chula Vista, CA, Aventine Pres, 2006; Id., *Shakespeare and the Dawn of Modern Science*, Cambria Press, Amherst, New York, 2010; Id., *Shakespeare and Saturn: Accounting for Appearances*, Peter Lang, New York, 2015.

([9]) Id., *Advances in the Hamlet Cosmic Allegory* and *Hamlet's Universe*.

avoid. This lack of acceptance of the existence of a "Shakespeare Case", as I called it, affects the whole Shakespeare scholarship system; it produces disconcerting research, and, what is worse, it inhibits research.[10] Nevertheless, research is progressing also in the literary-philosophical field, with, among other studies, a new perspective on Shakespeare and Bruno.[11] Work in progress is also promising. In her paper '*The Phoenix and the Turtle*': *'Torquato Caeliano' Is Really Giordano Bruno and 'Robert Chester' Is Really Shakespeare* Marianne Kimura convincingly hypothesises a connection Shakespeare-Bruno in the mysterious anthology *A Loves Martyr, or Rosalins Complaint* (1601) in the last part of which appears, among other poems by modern poets, Shakespeare's *The Phoenix and the Turtle*.[12] According to Kimura *A Love's Martyr* is not, as stated by "Chester", a translation of an Italian poem by "Torquato Caeliano", but an original poem by Shakespeare.[13] Kimura suggests that Shakespeare's *The Phoenix and the Turtle* and "Chester's" *Loves Martyr* are an allegory of Bruno's conception of knowledge. From this perspective, a year after Bruno's martyrdom (17 February 1600) Shakespeare depicted Bruno as a martyr of knowledge, the only worthy form of love according to Bruno in his *Eroici furori* (literally, "The Heroic Enthusiasms"). This is the fourth "Italian" treatise pub-

(10) Laura Orsi, *Il Caso Shakespeare*, in W. Shakespeare, *I Sonetti*, translated by C. M. Monti, Preface by Maria Rita Polato, Padova, Cleup, 2016, pp. XXI-LXXXII: https://www.academia.edu/30695387/Il_Caso_Shakespeare._I_Sonetti.

(11) Laura Carotti, *'Phantasia Pictrix': Bruno, Shakespeare e la pittura dell'ombra*, paper presented at the conference "Italia ed Europa tra Rinascimento e prima età moderna", Pisa (Scuola Normale Superiore)-Florence (Istituto Nazionale di Studi sul Rinascimento, 10-12 Dec. 2015.

(12) Robert Chester, *Loves Martyr: or, Rosalins Complaint. Allegorically shadowing the Truth of Loue,in the constant Fate of the Phoenix and Turtle. A Poem interlaced with much varietie and raritie; now first translated out of the venerable Italian of Torquato Caeliano, by Robert Chester. With the true legend of famous King Arthur (…) To these are added some new compositions, of seuerall modern Writers, whose names are subscribed to their seuerall workes upon the first Subiect: viz. the Phoenix and Turtle* , London, Imprinted for E.B. [Edward Blount?],1601.

(13) Marianne Kimura, "*The Phoenix and the Turtle*: 'Torquato Caeliano' Is Really Giordano Bruno and 'Robert Chester' Is Really Shakespeare", unpublished paper, in: https://www.academia.edu/5840389/The_Phoenix_and_the_Turtle_Torquato_Caeliano_is_really_Giordano_Bruno_and_Robert_Chester_is_really_Shakespeare. Another promising work in progress on Bruno and Shakespeare is Michael Shumaker, *The Radical Astronomy of Shakespeare and Bruno*, in: https://www.academia.edu/11163142/The_Radical_Astronomy_of_Shakespeare_and_Bruno

lished by Bruno in London; it came out in 1585 (one of Shakespeare's so-called "lost years") with, embedded in the title, a dedication "to the very illustrious and excellent knight, Sir Philip Sidney".[14] The "Heroic Enthusiasms" were first translated into English in 1887-1889.[15] To the objection "Shakespeare did not know Italian" one could counter-object that as a matter of fact Shakespeare was more than proficient in Italian, as well as French, Spanish, Latin and ancient Greek, as his works, our best documents, testify page after page.[16]

A passage in *Macbeth* struck me due to its too apparent Ptolemaicism. I was encouraged to start research by Francesco Orlando's definition in his classic *Illuminismo e retorica freudiana* ("The Enlightenment and Freudian Rhetoric", 1982) of the irony-censorship relationship. According to Orlando, the irony level that characterises literary texts produced in the period which goes from approximately Giordano Bruno's bonfire (17 February 1600) to 1789 (the onset of the French Revolution) is inversely proportional to the freedom of speech that the times allowed. (I did not know Usher's studies at the

(14) Giordano Bruno, *Giordano Bruno Nolano. De gl'heroici furori. Al molto illustre et eccellente Caualliero, Signor Philippo Sidneo*, Parigi ["Paris", *de facto* London], presso Antonio Baio, 1585 (English translation: *The Heroic Enthusiasts: An Ethical Poem, Part the Second*, translated by L. Williams, London, Bernatd Quartritch, 1889. It must be noted that in Italian "baia" means "silly thing". John Florio's Italian-English dictionary, *A Worlde of Wordes* (1598) defines this word as follows: "Baia, a trifle, a toy, a nifle, a jest, a vanitie, a little wicker basket which the cariers in Italie fasten at their moyles [=mules'] muzles with hay or provender in it, so that they may eate as they travel": John Florio, *A Worlde of Wordes*, Haller 2013, p. 83.

(15) Giordano Bruno, *Heroic Enthusiasts-Eroici furori, An Ethical Poem (…) Part the first translated by L. Williams (…)*, London, George Redway, 1887; Id., *Heroic Enthusiasts-Eroici furori, An Ethical Poem, Part the second*, [s.l.], Bernard Quaritch, 1889.

(16) I refer to my comparative study between Shakespeare's and John Florio's language: Laura Orsi, *William Shakespeare e John Florio: una prima analisi comparata linguistico-stilistica*, «Atti e Memorie del'Accademia Galileiana di Scienze Lettere ed Arti in Padova, Memorie della classe di Scienze Morali Lettere ed Arti», academic year 2015-2016, Padova, presso la sede dell'Accademia, 2017, pp. 139-280 (https://www.academia.edu/31443819/William_Shakespeare_e_John_Florio_una_prima_analisi_comparata_linguistico-stilistica), particularly section 2.3 ("Poco latino e ancor meno greco"), pp. 186-192 (where I expand on Colin Burrow's argument in his *Shakespeare and Classical Antiquity*, Oxford, Oxford University Press, 2013, p. 1, that Ben Jonson's famous quote "small Latin and less Greek" was always misread) and section 3, pp. 222-280, where I compare a sample of the two authors' newly-created words.

time).[17] My analysis includes *Macbeth*, a number of passages from other Shakespeare's plays, and Sonnets 7, 14 and 21. Getting familiarized with Shakespeare's style on the subject of celestial bodies and phenomena will allow us to better appreciate *Macbeth*'s radical force and Shakespeare's rhetorical ability.

1. An Age of Revolutions

Shakespeare was born in an age marked by revolutions. Perhaps the most shocking one came with the nearly posthumous publication, in 1543, of Copernicus's *De revolutionibus orbium coelestium*.[18] This epoch-making book, published twenty-six years after Luther's "Theses" and the same year as Andreas Vesalius's *De humani corporis fabrica*,[19] put an end to the bimillenary geocentric Aristotelian-Ptolemaic belief according to which the earth – fixed – occupies the centre of the cosmos while around it rotate at varying speed eight concentric spheres each carrying a planet (the "heavens" of the Moon, Mercury, Venus, the Sun, Mars, Jove and Saturn) and, further above, the sphere of the fixed stars (Fig. 1). Aristotle's theory was "adjusted" for practical purposes by mathematician, geographer, astronomer and astrologer Ptolemy (2nd century CE) in his *Almagest*, coming to be one thing with it. Above the eighth heaven was, according to Aristotle, the "first mobile" (in Latin philosophical language, the "primum mobile"), to which a tenth was added in the medieval period: the realm of God or "Empireum", where Dante locates his Paradise (Fig. 2). .

(17) Francesco Orlando, *Illuminismo e retorica freudiana*, Torino, Einaudi, 1982, esp. Ch. 1, "Che la verità può dirsi perfino con piacere" ("Truth may also be told even with pleasure"), pp. 3-28 (10). Orlando's "summative" work, *Gli oggetti desueti nelle immagini della letteratura (…)*, preface by P. Boitani, new edition augmented and revised, Torino, Einaudi, 2015 (1999) is available in English: *Obsolete Objects in the Literary Imagination: Ruins, Relics, Rarities, Rubbish, Uninhabited Places and Hidden Treasures*, foreword by D. Quint, translation by G. Pihas and D. Seidel with the assistance of A. Grego, New Haven & London, Yale University Press, 2006 (also in Kindle edition).

(18) Nicolaus Copernicus, *De revolutionibus orbium coelestium, Libri VI (…)*, Norimbergæ apud Ioh. Petreium, 1543 (second edition Basileæ, ex officina Henricpetrina, 1566. As is known, Copernicus's theses had been circulating for three decades in manuscript form.

(19) Andreas Vesalius, *Andreæ Vesalii Bruxellensis, Scholæ medicorum Patauinæ professoris, de Humani corporis fabrica Libri septem*, Basilaæ, 1542; Id., Basilaæ, 1543.

Fig. 1 - Petrus Apianus, *Cosmographia*, 1539 (publ. 1524). The geocentric system.

One of the earliest pro-Copernicus European voices came from England. As early as 1553 there appeared in London a *Prognostication of Right Good Effect* (first extant edition 1555) by astronomer Leonard Digges, the Elder (c. 1515 – c. 1559).[20] This work was a handbook of meteorology for agronomical purposes, yet beyond its meteorological and astrological/astronomical appearance (for instance, the heaven of the fixed stars is the "Habitaculus of the Elect": Figure 3) it contained the first defense of Copernicanism to have ever been made on English soil. Its augmented and revised edition, published in 1592 by Leon-

(20) Leonard Digges, the Elder, *A Prognostication of right good effect, fructfully augmented, contayninge playne, briefe, pleasant, chosen rules to iudge the wether for euer, by the Sunne,* Moone, *Sterres* [sic], *Cometes, Rainbowe, Thunder, Cloudes, with other Extraordinarie tokens, not omitting the Aspects of Planetes (…)*, London, Thomas Gemini, 1555.

Fig. 2 - Domenico di Michelino, Dante with is three kingdoms and the heavens. Florence, Santa Maria del Fiore.

ard's son, Thomas (1545-1596) became a pro-Ptolemy defense.[21] We owe to Thomas Digges's son, Leonard Digges, the Younger, the first commemorative poem of the *First Folio* (1623), the volume which for the first time gathered together Shakespeare's dramas seven years after his supposed death.[22] The revision of Leonard the Elder's book is a testimony of the difficulty encountered (certainly not just in England) by the "moving earth theory". Incredible as it may seem, even today it is possible to find "refutations" of it. One should not forget that the

(21) L. Digges, the Elder, *A Prognostication euerlasting of right good effect, fruitfully augmented by the author (…) Published by Leonard Digges gentleman. Lately corrected and augmented by Thomas Digges his sonne*, Imprinted at London by Thomas Orwin, 1592.

(22) Leonard Digges, the Younger, *To the Memorie of the deceased Authour Maister W. Shakespeare: And what he hath left vs"*, in William Shakespeare, *Mr. William Shakespeares Comedies, Histories, & Tragedies. Published according to the True Originall Copies*, London, printed by Isaac Iaggard, and Ed. Blount, 1623 (facsimile edition New York & London, Routledge, 1998, Introduction by D. Moston): [sig. A4r].

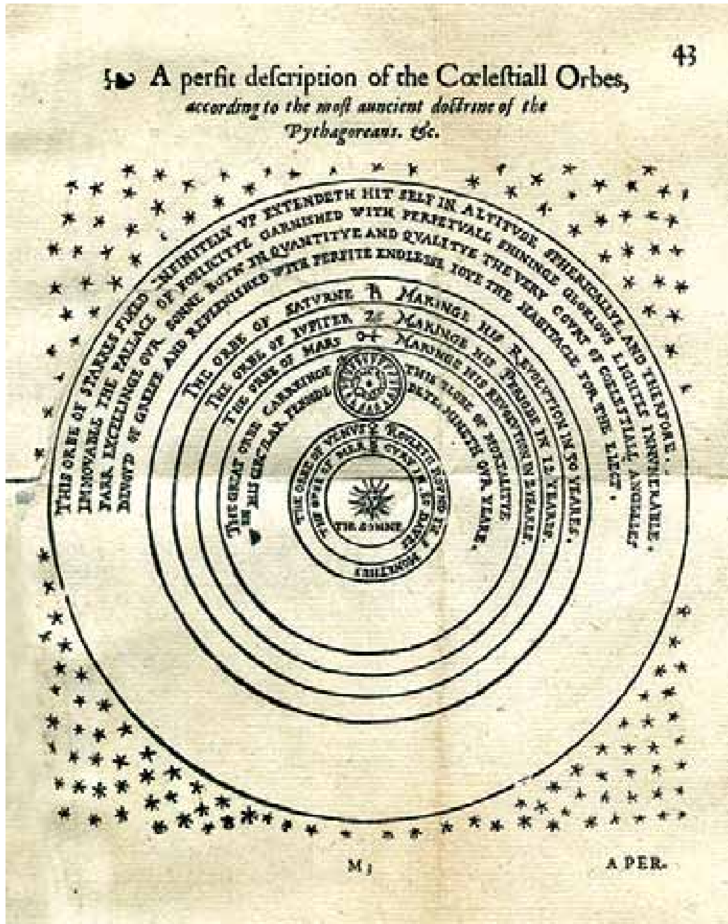


Fig. 3 - Leonard Digges, the Elder, *Prognostication*, 1596.

Catholic Roman Church (in the person of Pope Paul John II) admitted that Galilei was right only in 1992.

Copernicus's heliocentric theory deprived the earth of its spiritual and physical centrality; furthermore, it was founded on the hypothesis that the earth moved. Writing in Copernicus's name, his friend Andreas Osiander was as direct as direct could be in his prefatory letter (unauthorized) to Copernicus's book: "There have already been widespread reports about the novel hypotheses of this work, which declares that the earth moves whereas the sun is at rest in the centre of the universe." In his dedicatory letter to Pope Paul III Copernicus was

more diplomatic, implicitly suggesting that the pope could not fail to take sides with him:

> I can readily imagine, Holy Father, that as soon as some people hear that in this volume, which I have written about the revolutions of the spheres of the universe, I ascribe certain motions to the terrestrial globe, they will shout that I must be immediately repudiated together with this belief.[23]

Copernicus had studied the ancient philosophers, and, as had happened in classical Greece when the first hypothesis of the earth's rotation and revolution movements had first been advanced, by Aristarchus of Samos (c. 310 – c. 230 BCE), the core of the question had been the sun-planets relationship. The printing press was to allow the new discoveries (published in Latin) to travel and take roots in some of the most open-minded universities, among which stood Wittenberg, Luther's city as well as (not surprisingly) Bruno's university and (curiously) Hamlet and Horatio's one in *Hamlet* (publ. 1603). In the subsequent decades further steps toward the acquisition of a scientific understanding of the cosmos were made by Tycho Brahe (1546-1601), Johannes Kepler (1571-1630) and Galileo Galilei (1564-1642). The end result of decades of distinct contributions was a cosmos much wider than the heliocentric one theorized by Copernicus and characterized by movement and mutual attraction, with, within the solar system, the earth orbiting around the sun (due to the gravitational force exerted by the sun) and subject to the same physical laws that govern the other planets.

The notion of the earth's movement was not new in absolute terms, but had been "forgotten", to use Lucio Russo's definition in his *The Forgotten Revolution* (1996).[24] Aristotle's readers could get a glimpse of its first formulation in his *De caelo* (296a, 24-27) where he criticises

(23) N. Copernicus, *De revolutionibus*, Nuremberg, Johann Petreius, 1543. I used the English translation: *Six Books on the Revolutions of the Heavenly Spheres*, translations and commentary by Edward Rosen, Baltimore and London, The Johns Hopkins University Press, 1971: [Andreas Osiander,] "Foreword: To the Reader, Concerning the Hypotheses of this Work"; ibidem, Copernicus, "To His Holiness, Pope Paul III, Nicolas Copernicus' Preface to his books on the revolutions". In: http://www.geo.utexas.edu/courses/302d/Fall_2011/Full%20text%20-%20Nicholas%20Copernicus,%20_De%20Revolutionibus%20%28On%20the%20Revolutions%29,_%201.pdf.

(24) Lucio Russo, *La rivoluzione dimenticata*, Milan, Feltrinelli, 20137; English translation by Silvio Levy: *The Forgotten Revolution: How Science Was Born in 300 BC and Why It Had to Be Reborn*, Berlin Heidelberg, Springer-Verlag, 2004 (based on the Italian second edition); section 3.6 ("Aristarchus, Heliocentrism, and Relative Motion").

"some" who claim that the firmament's rotation is the optical effect of the earth's rotation about its own axis. Both Pythagoras (570-500/490 BCE) and, towards the end of antiquity, Plutarch (45-120 CE) in his *De facie quae in orbe lunae apparet*, 923A, would mention Aristarchus of Samos with relation to his hypothesis of the earth's rotation around its axis and revolution around the sun.[25] Another forgotten scientist, Democritus of Abdera (c. 460-c. 370 BCE) to whom we owe the first hypothesis of an infinite cosmos, had resurfaced through the recovery and publication of old texts. Scientific, literary and philosophical learning ran hand in hand in the Renaissance.

The relation with antiquity is an interesting one also from a Shakespeare's perspective, because antiquity is a fundamental part of his inspiration. It cannot be overemphasised that exposure to ancient scientific theories came to Shakespeare and his contemporaries not only from the day's scientific publications, but also from ancient sources rediscovered, edited and published during the Renaissance period. One should not forget that culture in Shakespeare's time was omnidisciplinary. Galilei prided in defining himself a "natural philosopher" in order to stress his belonging to the philosophers' community. Shakespeare's favourite poetic form, drama in verse, is made mainly of dialogues, namely the literary genre *par excellence* in the Renaissance philosophical literature of his time, based on the Platonic dialogue form which was rediscovered in the early Renaissance. Just as Shakespeare's culture includes state-of-the-art astronomy, which as we will see he backs up subtly in his works, a scientist of Andreas Vesalius's caliber relied on an artist to illustrate his book of anatomy (a revolutionary book in its own right) by means of striking images that are partly rigorously anatomical and partly artistic, adding to the book's revolutionary quality. The image of a skeleton brooding over a skull is strongly reminiscent of Hamlet's monologue over Yorick's skull (Fig. 4). This mix of languages (scientific strictly speaking and allegorical) was a sort of intellectual bilinguism that scholars of Shakespeare must need take into account. It is a cultural model for a hands-on appreciation of Shakespeare, his contemporaries, and their predecessors.

The philosophical potential of the new world was further expanded by Bruno in his three cosmological dialogues, *La cena delle ceneri* (*The Ash Wednesday Supper*), *De la causa, principio et uno* (*Cause, Principle and Unity*) and *De l'infinito, universo e mondi* (*Of the Infinite, the Universe and the Worlds*) which he wrote and published in London

(25) Id., *Stelle, atomi e velieri. Percorsi di storia della scienza*, Milan, Mondadori, 2015, Ch. 4 ("Moti della Terra"), pp. 51-62 (51-52) and notes 1 and 5, p. 61.

Fig. 4 - Andreas Vesalius, *De humani corporis fabrica*, 1543.

during his two-year sojourn at the French ambassador's household, in 1583-1585. Way before Galileo announced his amazing planetary discoveries in his *Sidereus nuncius* (1610) Bruno had rejected the heliocentric theory theorized by Copernicus and affirmed the possibility that the solar system was not the only one. Bruno saw the universe as one and the same system, enlivened by the divine "principle", physically "united" and infinite throughout – from its atoms to its many possible worlds. During his time in England Bruno shook the *status quo* system, making himself some enemies at Oxford and London (also due to his lack of diplomatic skills). On the positive side, due to the generous French ambassador's hospitality he could dedicate his energy to writing milestone treatises which he no doubt shared with a number of friends, including in the first place John Florio, to whom we will return.[26]

(26) On Bruno in England, see John Bossy, *Giordano Bruno and the Embassy Affair*, New Haven & London, Yale University Press, 1991, and Giovanni Aquilecchia, *Giordano Bruno in Inghilterra (1583-85). Documenti e testimonianze*, «Bruniana & Campanelliana», vol. 1, numero1/2, 1995, pp. 21-42 and Yates, *Giordano Bruno's Conflict with Oxford*.

Could Shakespeare have remained indifferent to Bruno's presence in London and its echo in subsequent years? Official Shakespeare's biographies limit their information to a trite repletion of "don't knows". This has meant a building of fences where new horizons could have been explored. As a result, Shakespeare often appears as a disengaged character – an irony in its own right. It is high time that academics took into account Charles Dickens's morning fears concerning the possible turning up of overnight discoveries about Shakespeare's life, as well as the trenchant skepticism of, among others, Ralph Waldo Emerson, Mark Twain, Sigmund Freud, Charlie Chaplin, Henry James; the dubiousness of Jorge Luis Borges ("I have always felt something Italian, something Jewish in Shakespeare") and Eugenio Montale's hypothesis of a Shakespeare's team.[27] Whatever one's feelings, truth should be the focus for a better understanding of Shakespeare. According to official biographies, in the mid-1580s Shakespeare was somewhere in his "lost years". If the future Shakespeare was Anglo-Italian John Florio (London, 1553 – Fulham, 1625 or 1626), a "very dangerous candidate" to the Shakespeare authorship, according to Dario Calimani, this was a decisive time for him (FIG. 5).[28] John Florio is the celebrated author of the first bilingual dictionary Italian-English, *A Worlde of Wordes* (1598, Italian 46,000 words), and *Qveen Anna's New World of Words* (1611, Italian 74,000).[29] He was also the number one preceptor of Italian in the kingdom, the author of two handbooks (completely in dialogue form) for the learning of Italian and English, the first translator into English of Michel de Montaigne's *Essais* (*Essays*, 1603) and the author of the anonymous translation of Giovanni Boccaccio's *Decameron*

(27) ORSI, *William Shakespeare and John Florio*, section 1.4 ("L'accademia e gli scrittori, i poeti, gli intellettuali"), pp. 152-154; section 1.5 ("I tremori di Charles Dickens"), pp. 154-155, and section 1.6 ("Voci fuori dal coro"), pp. 155-159.

(28) Interview to Dario Calimani in http://www.unive.it/nqcontent.cfm?a_id=97933.

(29) JOHN FLORIO, *A Worlde of Wordes* (see footnote 1); ID., *Queen Anna's new world of words, or Dictionarie of the Italian and English tongues (…). Whereunto are added certaine necessarie rules and short obseruations for the Italian tongue*, London, printed by Melch. Bradwood, for Edw. Blount and William Barret, 1611. The third enlarged edition was published after his death by G. Torriano, *Vocabolario Italiano & Inglese: A Dictionary, Italian and English; formerly compiled by John Florio (…) Now (…) revised (…) and compared with la Crusca (…) and enriched with very considerable additions (…)*, London, T. Warren for J. Martin, J. Allestry and T. Dicas, 1659.

Fig. 5 - John Florio's portrait from his *Qveen Anna's New Worlde of Wordes* @ National Portrait Gallery, London.

(1620), the first to have appeared in English.[30] In my preliminary comparative essay *William Shakespeare e John Florio* (2017) I have showed that Shakespeare's and Florio's linguistic-stylistic relationship comes through as an "osmotic" one.[31] From a quantitative perspective, too, Shakespeare and Florio are neck-to-neck: Shakespeare is the most prolific word inventor of the age (with around 1,500 new words), lexicographer Randle Cotgrave (d. 1634) is the second (with around 1,350 new words), and lexicographer, author and translator John Florio is the second (with around 1,200 new words).[32]

([30]) J. Florio, *Florio his firste Fruites, which yeelde familiar speech, merie Prouerbes, wittie sentences, and golden sayings. Also a perfect Induction to the Italian, and English tongues (…)*, London, Thomas Dawson for Thomas Woodcocke [Woodcock], 1578; Id., *Second Frutes, To be gathered of twelue Trees of diuers but delightsome tastes to the tongues of Italians and Englishmen. To which is annexed his Gardine of Recreation yeelding six thousand Italian Prouerbs*, in London, printed for Thomas Woodcock, 1591; Id., *The essayes or Morall, politike and millitarie discourses of Lo: Michaell de Montaigne (…)*, printed at London, by Val. Sims for Edward Blount, 1603, and Id., *The Decameron. Containing An hundred pleasant Nouels. Wittily discoursed, betweene seauen* (*sic*) *Honourable Ladies and three Noble Gentlemen*, London, printed by Isaac Iaggard [Jaggard], 1620. The attribution to Florio of this remarkable translation was first made by Herbert Gladstone Wright, *The First English Translation of the 'Decameron' (1620)*, Upsala-Copenhagen-Cambridge, Mass., Lundequistska-Ejnar Munksgaard-Harvard University Press, 1953 and it was since confirmed by Howard C. Cole, *The 'All's Well' Story from Boccaccio to Shakespeare*, Urbana, University of Illinois Press, 1981, p. 80; Lamberto Tassinari 2009 and 2013 (see note 31), Ch. 2 ("Resolute John Florio"), pp. 61-63; W.H. Haller in his edition of J. Florio, *A Worlde of Wordes*, "Bibliography", section "Works by John Florio", pp. lv-lvi: p. lvi, and Orsi, *William Shakespeare and John Florio*, section 3.3 ("Florio, Shakespeare e l'Anonimo Traduttore del *Decameron*"), pp. 226-233. A fascinating classic on J. Florio is F.A. Yates, *John Florio: The Life of an Italian in Shakespeare's England*, Cambridge, Cambridge University Press, 2010 (1934).

([31]) Orsi, *William Shakespeare and John Florio*, esp. pp. 222-269. The Shakespeare-John Florio study was re-opened, after decades of oblivion, by Lamberto Tassinari, *The End of a Lie: John Florio, the Man Who Was Shakespeare*, translation by W. McCuaig, Montreal, Giano Books, 2009, followed by Id., *John Florio, the Man Who Was Shakespeare*, transl. by W. McCuaig, Montreal, Giano Books, 2013 (French translation: *John Florio alias Shakespeare*, preface by Daniel Bougnoux, translation by Michel Vaïss, Paris, Au bord de l'eau, 2016).

([32]) Orsi, *William Shakespeare and John Florio*, section 3.4 ("L'*Oxford English Dictionary*"), pp. 233-235. The first neologists of all times in the English language are according to the OED J. Chaucer, John Trevisa and the so-called "Wycliffite Bible", a series of translations directed by John Wycliff in the 1380s.

2. Romeo and Juliet, star-crossed lovers

The orchard scene in *Romeo and Juliet* is a memorable example of Shakespeare's lyricism and critical creativity on the subject of love and stars. In this famous scene, after secretly leaping over the Capulets' orchard wall (II.i.5) Romeo suddenly sees Juliet appearing from out a window: "But soft, what light through yonder window breaks? / It is the east, and Juliet is the sun" (II.ii.2-3). A few lines further down Romeo compares Juliet's eyes to two stars: "Two of the fairest stars in all the heaven, / Having some business, do entreat her eyes / To twinkle in their spheres till they return" (II.ii.15-17). Similarly to human beings, stars can decide to go places prior to arranging for their temporary replacement. But soon Romeo corrects himself: "What if her eyes were there, they in her head? / The brightness of her cheek would shame those stars, / As daylight doth a lamp; her eyes in heaven / Would through the airy region stream so bright / That birds would sing and think it were not night" (II.ii.16-22). Juliet's eyes cannot have exchanged places with "two of the fairest stars in all the heaven". Had this happened, heaven would have become as bright as day, birds would have started to sing (an anticipation of the nightingale motif of III.v) and "those stars" would have been mortified by Juliet's eyes. Romeo's self-correction, though figurative (hyperbolic) is an emblematic indication of Shakespeare's intellectual mobility. Traditional values are constantly being assessed by Shakespeare. In this case, through Romeo's candour Shakespeare is ironically, though not without empathy, smiling at centuries of stellar comparisons. In doing so, he smiles at himself too, at his fundamental, profoundly rooted fondness for poetry, including other poets' one.

It has been suggested that the two stars evoked by Romeo are "planets or celestial bodies", possibly due to the reference to their spheres.[33] In Shakespeare's time the common belief was that stars did not have orbits ("spheres") and were immovable ("fixed"), a heritage of the Aristotelian cosmologic theory (*De caelo*) according to which, as I mentioned above, the universe is finite, the earth is firmly fixed in the former's center and there are eight spheres that revolve around the earth sharing with it the same centre (the "homocentric theory"). Stars' rotatory movement would be ascertained only in 1718, by Ed-

(33) William Shakespeare, *Romeo e Giulietta*, Turin, Einaudi, 2014², ed. by S. Bigliazzi, p. 99 (footnote 15-17): "pianeti e corpi celesti".

mond Halley (1656-1742), to whom we also owe the name of the "Great Comet" of 1577 and 1618. On the one hand, the word "planet" would lessen the figurative charm of the famous window scene in *Romeo and Juliet* (from a poetic tradition's perspective a star is, admittedly, more romantic than a planet). On the other hand, by hypothesizing that the two stars may have left their spheres "having some business" to do, Shakespeare is *ipso facto* attributing to them a capacity to move. If we accept that these two "stars" are indeed stars, the whole scene becomes extraordinarily provocative: "Two of the fairest stars in all the heaven, / Having some business, do entreat her [Juliet's] eyes / To twinkle in their spheres till they return". If the "stars" in the text are stars, they are stars with "spheres", which means that Shakespeare is daringly insinuating that stars, too, partake of the general universal movement, thus expressing a belief that their immobility is only a matter of optical illusion and dogmatic delusion.

Romeo's coming back to his senses, "What if their eyes were there, they in her head?", with the hyperbolic lines that follow, does not dissipate the impression that those "two of the fairest stars in all the heaven" were ready to leave their spheres, at least in Romeo's mind, to go somewhere else across the heaven, indirectly "authorized", it is possible to argue, by their "regular" rotatory movement around their respective spheres. One senses that a star that rotates around itself on a regular basis would find it easier to leave its sphere (in order to temporarily go on some errand and then make it back home) than would a motionless "fixed" star… Halley proved that stars were only apparently "fixed", their rotatory movement not being "apparent", i.e. perceivable by the eye.

It would be naïve to imagine that Shakespeare "thought" or "believed" that stars could go where they wished. We can be pretty sure that even Romeo, despite his fifteen years of age, knows that a heavenly body cannot possibly leave its sphere, let alone go somewhere and then get back into its sphere. Given that Romeo lives in early fourteenth-century Verona, the Verona of "Escalus", a della Scala ruler (in da Porto and Bandello the prince is Bartolomeo della Scala, who ruled Verona 1301-1304) one cannot imagine that a realistic Romeo would have known that stars too had spheres – unless, that is, he were speaking on his late sixteenth-century author's behalf.

Understanding an author is a matter of personal responsibility and it requires a building up of familiarity. At strictly poetic level, both the reader and the spectator enjoy Romeo's lyricism and figurative finesse: the two fair stars that come close to changing places with Juliet's eyes are "simply" a metaphor of Juliet's incomparable beauty –

as well as Romeo's ardent love.[34] However, underneath the surface one notices an incongruity, which makes one surmise that either Romeo is saying "stars" for "planets" (a slip of the tongue) or he is acting as Shakespeare's spokesman sending out a cutting-edge concept which waits to be scientifically proved but which, by means of analogical imagination, can be figured out.

Similarly, when in other contexts Shakespeare seems to describe the earth as *unmovable*, it is possible to surmise that he is giving voice to a character ignorant of the scientific truth, "unintelligent" of astronomy just as, possibly, of ethics. Knowledge leads towards good and ignorance is the door to evil. We will return to this point when dealing with *Macbeth*; here I will limit myself to quoting from *Proverbs* (19:2): "Desire without knowledge is not good, and whoever makes haste with his feet misses his way", a proverb which perfectly captures Macbeth's error. In other words, when in *Macbeth* Shakespeare describes the earth as "still", it is possible to imagine that he is trying to suggest the opposite by means of irony, the rhetorical figure that consists in saying the opposite of what one means – as we know from F. Orlando, irony is the most used rhetorical figure in times of limited liberty of speech. The opposite is hardly conceivable. Would it have made sense for Shakespeare to mock or ironize about a Copernican? Why mocking or ironizing about someone who was not "in vogue" in the first place?

Despite Romeo's enthusiastic praise of Juliet's eyes, the love of the two young lovers of Verona is "star-crossed". Like "unintelligent" in *The Winter's Tale* (1623), I.i.14, "star-crossed" is a Shakespeare's newly formed word (a neologism). The striking adjective "star-crossed" refers to malignant stars, in which the majority of Europeans believed in Shakespeare's time. (Later in the play, while grieving over Juliet's lifeless body, Romeo calls them "inauspicious stars". Petrarch, one of Shakespeare's poets, calls them "stelle maligne": *Canzoniere*, 128, line 52). Let us analyse this adjective in depth. "Crossed" derives from the verb "to cross". As a noun, it conveys a sense of sacrifice and sufferance; from this perspective, Romeo

(34) The starry imagery is echoed and reversed by Juliet in Act III: "Come gentle night, come loving black browned night, / Give me my Romeo, and when I shall die / Take him and cut him out of little stars, / And he will make the face of heaven so fine / That all the world will be in love with night / And pay no warship to the garish sun" (III.ii.20-25). Juliet imagines a heaven sparkling with little stars, making everyone fall in love with night.

and Juliet appear as sacrificial victims of their families' unruly passions. As a verb, it means "crucified". If taken literally, the two young lovers' sacrifice is not described as part of a divine project. It is the stars with their cruelty (their "malignity") that demand it, or so we are told. Did Shakespeare truly believe in the stars' capacity to be agents of what happens on earth, or is the phrase "star-crossed lovers" a vibrant metaphor to signify that in distant "fair Verona" Romeo and Juliet's tragic death will be regarded as being due to the stars' will? Was Shakespeare a covert atheist, or was as he simply trying to give an immersive context to the most tragic love story of Romeo and Juliet?

With his idea that the newly-wed Juliet should drink a potion that will make her look dead, Friar Lawrence is the agent of Juliet and Romeo's tragic death. Is the friar's inconsiderate behavior, i.e. marrying the two young lovers, deferring talking with their parents and offering Juliet a deadly-seeming liquour to drink when things have precipitated, a manifestation of the stars' wickedness? Could one not argue that the young lovers' death is but a consequence of a group of adults (three parents and one friar) not being able to take good care of their young ones? On 17 May 2016 the *Corriere della Sera* reported that a school teacher from Gaza and her female students had decided to not read *Romeo and Juliet*, claiming that it teaches the young to rebel against their parents.[35] They chose *King Lear* instead, as a model of filial devotion. This moving news from Gaza not only testifies to the love for Shakespeare and poetry in one of the most tormented regions of our world, but is an indirect confirmation of *Romeo and Juliet*'s "problematic" content; as such, it can help us shed light on Shakespeare's strategies for conveying debatable views.

The play ends with the two protagonists' taking their life away. A suicide may be a consequence of a daughter's or a son's rebellion against her or his parents, yet it belongs to a more dramatic category than rebellion against one's parents. It is a sin against God. It is therefore possible to argue that by blaming the stars with a poetic and archaic notion (the decree of evil stars) Shakespeare meant to protect his tragic young lovers as well as himself. Suicide was considered a penal crime well into the modern age, and the corpses of those who committed suicide even to this day are not always given burial in conse-

---

([35]) DAVIDE FRATTINI, *A Gaza censurato "Romeo e Giulietta". "Invita i ragazzi a ribellarsi"*, «Corriere della Sera», 17 May 2016: http://www.corriere.it/esteri/16_maggio_17/a-gaza-censurato-romeo-giulietta-invita-ragazzi-ribellarsi-b584ae84-1c66-11e6-86d1-c1e2db24bea0.shtml.

crated ground. Instead, also in Shakespeare's play the two unfortunate young lovers are honoured by being buried next to each other.[36] The remoteness of the events, stretching back to early-fourteenth-century Verona, when the city was ruled by "Escalus", joined with the physical distance of the location, provide further layers of protection to this overly tragic play.[37]

Shakespeare could have modified his sources – Luigi da Porto (from whom he drew the ambitious, sinister friar) and Counter-Reformist Matteo Bandello. Instead, he created a new word, a word which appears emblematic of his elaboration of the old Veronese story. No matter how beautiful and poetic the two fair stars competing with Juliet's eyes would be in the balcony scene, it is the stars under whose influence the two young lovers were born that are – at least apparently, based on the literal reading – responsible for the play's tragic epilogue. The striking adjective allowed Shakespeare to give a more acceptable dimension to the tragic story, while anonymity protected the author of a story marked by stars' cruelty.

Romeo and Juliet was published anonymously in 1597.[38] Under cover of anonymity appeared also three out of the four following editions: the 1599 and 1607 in-quartos plus variant "a" of the 1622 one.[39] Both 1622 variants ("a" and "b") were issued about one year prior to the *First Folio*, which was published seven years after the supposed Shakespeare's death. The *First Folio* contains 20 out of 36 hitherto unpublished plays, amounting to 55% of the total. Joined with these late publications, the 18 pre-*First Folio* anonymous in-quartos (18 out of approximately 60) that have come down to us contribute to suggest that, if an authorship question existed, it was grounded on serious circumstances, related not just (or not generically) to the real author's identity, but also (simultaneously) to his works.[40] Problem-

(36) Shakespeare, *Romeo and Juliet*, V.iii.298-304: "*Montague*: "For I will raise her statue in pure gold, / That whiles Verona by that name is known / There shall no figure at such rate be set / As that of true and faithful Juliet. / *Capulet*: As rich shall Romeo's by his lady lie, / Poor sacrifices to our enmity."

(37) Shakespeare's translation of Bartolomeo della Scala's name, obtained by crossing Italian "scala" and French "escalier", both meaning "ladder", and engrafting them into a Latin prefix "-us".

(38) [Shakespeare], *An excellent conceited Tragedie of Romeo and Iuliet, as it hath been often (with great applause) plaied publiquely (...)*, In London, printed by Iohn Danter, 1597.

(39) The second "variant" of 1622 mentions Shakespeare's name.

(40) Orsi, *William Shakespeare e John Florio: per una prima analisi linguistico-stilistica*, section 2.5 ("Le edizioni anonime"), pp. 203-207.

atic views require(d) subtle and complex forms of communication, and a special prudence may have been felt necessary on the part of an author who was not totally English in terms of "blood", if the true Shakespeare was the Anglo-Italian John Florio, as the systematic linguistic comparison I began in my "William Shakespeare and John Florio" essay confirms.[41] Though in the inscription below his portrait published in his second Italian-English dictionary, *Qveen Anna's New World of Words* (1611) he describes himself as "Italus ore, Anglus pectore", "Italian by language, English at heart", London-born John Florio was in point of fact an Anglo-Italian polyglot and the son of a former Franciscan friar (a very Popist!), Michelangelo Florio, one of the most interesting protagonists of the Reformation and an author in his own right.[42]

The Prologue of *Romeo and Juliet* is not included in the *First Folio*. It appears in the 1599 in-quarto.[43] Whoever prepared the *First Folio*, whether the two actors John Heminge (or Heminges etc.) and Henry Condell working on the dead author's papers, as suggested by the two actors in their prefatory letter "To the great Variety of Readers" in the *First Folio*,[44] or John Florio revising/writing *his own* papers,[45] it is in-

(41) *Ibidem*, Part 3, pp. 222-280.

(42) M. Florio's theological works are: MICHELANGELO FLORIO, *Apologia di M. Michel Agnolo Fiorentino: ne la quale si tratta de la vera e falsa chiesa (…) scritta contro a un'Heretico*, Chamogascko [Basel?], per M. Stefano de Giorgio Catani d'Agendina di sopra, 1557, and *Historia de la vita e de la morte de l'illustriss. Signora Giovanna Graia, già Regina eletta e publicata d'Inghilterra e delle cose accadute in quel Regno (…), Con l'aggiunta di una dottiss. disputa Theologica fatta in Ossonia* [Oxford]*, l'Anno 1554*, s.l., Richardo Pittore, 1607 (ristampa anastatica, New Delhi, Isha Books, 2013), containing also a biography of Lady Jane Grey, the "nine day queen". M. Florio was her preceptor in the first half of 1553. On M. Florio see YATES, *John Florio*, Ch. 1, pp. 1-26; ALESSANDRO PASTORE, "Valtellina" in *Dizionario Storico dell'Inquisizione*, directed by Adriano Prosperi with the collaboration of Vincenzo Lavenia and John Tedeschi, 4 vols plus an "Inserto iconografico", Pisa, Edizioni della Normale, 2010, vol. 3, pp. 1651-1652; GIOVANNA PERINI, "Florio, M.", *Dizionario biografico degli italiani* (*DBI*), vol. 48 (1997); ORSI, *William Shakespeare e John Florio*, section 2.2 ("Michelangelo e John Florio"), pp. 169-186.

(43) *The most excellent and lamentable Tragedie, of Romeo and Iuliet. Newly corrected, augmented, and amended (…)*, London, printed by Thomas Creed, for Cuthbert Burby, sig. A2r: http://internetshakespeare.uvic.ca/Library/facsimile/book/BL_Q2_Rom/1/?zoom=500.

(44) SHAKESPEARE, *First Folio*: John Heminge and Henry Condell's dedication letter to the two Pembroke brothers: sigs A2r-v.

(45) SAUL FRAMPTON, *Who Edited Shakespeare?*, in «The Guardian», 12 July 2013: https://www.theguardian.com/books/2013/jul/12/who-edited-shakespeare-john-florio.

teresting to note that the *First Folio*'s publication date coincides with John Florio's 70th birthday: a perfect year for a double celebration? The fact that Florio's name does not appear in the *First Folio* seems a "variant on the theme" of anonymity. For the author whom the *Encyclopaedia Britannica* in 1902 was to indicate as Shakespeare's "French and Italian teacher", this is a curious absence indeed.[46] In turn, the omission of this arbitrary but revealing information in subsequent editions seems an indirect admission of the central role played by John Florio in the Shakespeare authorship question. Sadly, the disappearance of this datum brought with it the obliteration of a clever realization, i.e. that Shakespeare had formidable "French and Italian" skills, so formidable as to have made it necessary to assign their acquisition to the number one linguist of the age: the polyglot author, lexicographer and translator John Florio. It is surprising that scholars should generally be content with repeating over and over again that at Stratford-upon-Avon there was a grammar school, failing to ask where and in which circumstances Shakespeare could have become so proficient in French and Italian (or Italian and French) as his works prove him to be, particularly given that we have no records of his attending any university.[47] No doubt the loss of French as "Europe's language of culture" in the course of the twentieth century has not helped in the realization of how indebted to French, Italian and Latin Shakespeare's English is, both etymologically and grammatically.

([46]) *Encyclopedia Britannica*, 1902, section 31 ("Shakespeare continues his education. His connection to Florio"): "The most celebrated and accomplished teacher of French and Italian in Shakespeare's day was the resolute John Florio, who, after leaving Magdalen College, Oxford, lived for years in London, engaged in tutorial and literary work and intimately associated with eminent men of letters and their noble patrons": http://www.1902encyclopedia.com/S/SHA/william-shakespeare-31.html. J. Florio used to sign his name in his works' dedicatory letters etc. by adding to it either "Risoluto" or "Resolute".

([47]) See for instance Stanley Wells, one of the most engaged Shakespeare scholars of the last decades: STANLEY WELLS, *Shakespeare: A Dramatic Life*, London, Auckland, Melbourne, Singapore and Toronto, Sinclair-Stevenson, Ch. 1 ("Who is Shakespeare?"), p. 5: "No lists survive of the pupils at the Stratford grammar school – the King's New School, as it was known – in Shakespeare's time, but his father's position would have qualified him to attend, and we have every reason short of absolute documentary evidence to suppose that he did. If so, he would have left when he was fifteen. We should be more likely to know if he went to a university, but there is nothing to suggest that this is so."

3. The Fair Youth as the Sun: Sonnet 7

Shakespeare's brand mark is his knowledge of several languages. His linguistic skills are the result of application and specialization, also in terms of what we would call "micro languages" or simply "technical languages". His understanding of etymologies shapes his linguistic creativity. Both from a linguistic – linguistic *and* stylistic, since a word is the smallest stylistic unit – and from a scientific point of view, Shakespeare is increasingly revealing himself as an avant-garde scholar, quite different from the old portrait of a poet indifferent to, or incapable of appreciating what was going on around him. His language is an expanding world with endless possibilities, in tune with Giordano Bruno's notion of the cosmos as made of infinite worlds. We will return to Bruno – one of the most extraordinary foreign visitors to England of all times.

Sonnet 7 provides an interesting example of Shakespeare's intellectual strategies. Today every mortal is bowing before the Fair Youth, as every creature does when the sun arises:

> Lo, in the Orient when the gracious light,
> Lifts up its burning head, each under eye
> Doth homage to his new-appearing sight,
> Serving with looks his sacred majesty;
> And having climbed the steep-up heavenly hill,
> Resembling strong youth in his middle age,
> Yet mortal looks adore his beauty still,
> Attending on his golden pilgrimage.
> (Lines 1-8).

But if the Fair Youth continues to refuse to marry and have children, when his sun declines he will die in the general indifference, all his present day's admirers having dissolved:

> But when from his highmost pitch, with weary car,
> Like feeble age he reeleth from the day,
> The eyes, 'fore duteous, now converted are
> From his low tract and look another way.
> So thou, thyself outgoing in thy noon,
> Unlooked on diest, unless thou get a soon.
> (Lines 9-14).

There is a striking difference between the first two quatrains and the two tercets. The terminology used is a mix of traditionally lyric and technical. In the space of the given fourteen lines, one finds "the orient" (line 1), three metaphors pertaining to the sun in terms of "gracious light", "burning head" and (with a neologism which has escaped the *OED*) "new-appearing sight" (lines 1-3). "Orient, "light" and "sight" are both poetic and technical (scientific) terms. The celestial vault is defined as a "steep-up heavenly hill" (line 5), the day's journey as a "golden pilgrimage" (line 8), the zenith as "the highmost pitch" and its decline as a "weary car" (line 9). The sun's lowly condition after sunset is defined as a "low tract" and the beloved's prime of life is "thine [i.e. "your"] noon" (line 13). If "heavenly hill" is an overt metaphor, "pitch", "tract" and "noon" are technical terms used as metaphors. By this clever mix of lyric and technical, or let us say poetic and scholarly/scientific, Shakespeare obtains a small world (the individual sonnet) which through its connection with other small worlds (the other sonnets) produces a distinguished mix of classical and modern. The same can be said about any other of his works and the whole of his production.

"Encyclopedic" is not the correct adjective to describe Shakespeare's culture, which is in the first place a "world of words" drawn from a multiplicity of disciplines, languages and "vocabularies": the lexicon of plants, animals, ships, law, as well as astronomy. The passion for technical languages and for neologisms was not unique to Shakespeare: it can be found also in his contemporary John Florio. Curiously, these unique personalities never came into contact other than in Cristopher Marlowe's and Robert Greene's attacks against Shakespeare and Florio in the late 1580s-early 1590s.[48] Lack of documental evidence outside of the two authors' works makes the systematic comparison of their language and style, which I started in my *William Shakespeare e John Florio* essay, a particularly important area of study.[49]

(48) In my *William Shakespeare and John Florio* (pp. 207-219) I argue that the Shakespeare-Florio authorship question began a little before Robert Greene's *A Groaths-worth of witte, bought with a million of Repentance (…)*, London: Imprinted for William Wright, 1592, with Christopher Marlowe's *Doctor Faustus*, where he subtly identifies Florio with the Copernican and diabolic Faustus. On Faustus' Copernicanism see Gabrielle Sugar, *'Falling to a diuelish exercise: The Copernican Universe in Christopher Marlowe's Doctor Faustus*, in «Early Theater», vol. 12, no. 1 (2009), pp. 141-149: http://jps.library.utoronto.ca/index.php/eth/article/view/7473/4458.

(49) Orsi, *William Shakespeare and John Florio*, pp. 222-269.

Lexical accuracy, richness and specialization form a scholarly dimension that cannot be overemphasised. These qualities cannot be dismissed as "Renaissance man skills", even though they are effectively rooted in Renaissance culture, namely, in the first place, a world of universal knowledge where specialization is at the service of culture and the humanist values.

4. "And yet I have astronomy": Sonnet 14

We are starting to appreciate that Shakespeare's treatment of the sky is not "fixed", to use a traditional astronomical adjective. What is stable is the etymological and technical character of his poetry. Examples of Shakespeare's critical lyricism and technical wisdom on the subject of the heaven are to be found in the *Sonnets* (1609). A striking example of astronomical irony is found in Sonnet 14. The poet starts by saying that he "has astronomy", but his astronomy is not of the astrological type which is used to give practical advice, including to the princes who ask astrologers to tell them the same things over and over again:

> Not from the stars do I my judgement pluck,
> And yet I have astronomy;
> But not to tell of good or evil luck,
> Of plagues, of dearths, or seasons' quality;
> Nor can I fortune to brief minutes tell,
> Pointing to each his thunder, rain and wind,
> Or say with princes if it shall go well
> By oft predict that I in heaven find.
> (Lines 1-8).

After taking a first distance from astronomy through the association of the technical term "judgement" drawn from "judicial" astronomy and the poetic verb "to pluck" ("Not from the stars do I my judgement pluck") the poet elaborates on his irony. The trendy astronomers' activity consists in telling the future "to brief minutes", "pointing to each his thunder, rain and wind". Even princes fall into their allurements, being ready to hear the same predictions over and over again ("By oft predict what I in heaven find"). These anxious petty clients are not the poet's addressees. In the third quatrain the poet clarifies that his astronomy derives only from his beloved's eyes:

> But from thine eyes my knowledge I derive,
> And, constant stars, in them I read such art
> As Truth and Beauty shall together thrive
> If from thyself to store thou wouldst convert;
> Or else of thee this I prognosticate:
> Thy end is Truth's and Beauty's doom and date.
> (Lines 9-14).

The beloved's eyes are the poet's "constant stars". In *A Worlde of Wordes* (1598) Florio has two entries, one for "*constante*", one for "*costante*". He defines "*constante*" as "constant, steadfast", and "*costante*" as "constant, steadfast, firme, resolute". Similarly, he records "*constanza*, constancie, steadfastness" and "*costanza*, constancie, steadfastness, perseverance".[50]

By marking a difference between the more Latinising "*constanza*" and "*constante*" and the more modern metaphorical "*costanza*" and "*costante*" Florio gives proof of his etymological finesse. Shakespeare, too, knows that the adjective "constant" comes from the Latin word formed by the prefix "*cum*" ("indicating "company" but also "stability") and the verb "*stare*", "to stand", thus etymologically meaning "to remain firm on one's feet". Giotto's representation of "*Inconstantia*" at the Scrovegni Chapel in Padua is a very precise and genial rendering of this concept (Fig. 6). "Constant stars" is not a trite formula that Shakespeare is using: it is a metaphor for his beloved's eyes. Similarly to stars that (traditionally) stay immovable, his beloved's eyes give the poet stability, orientation and direction.

All of the sonnet's language is a mix of poetic and technical, and the ultimate poetic effect is a fusion of the two levels. "Judgement", "predict", "convert" "prognosticate" are technical terms mainly drawn from the language of astronomy. "Convert" comes from the language of religion and economics. As of now the beloved is a miser: if he "converts", ceasing to do "storage" of himself, the poet "prognosticates" a happy union of Truth and Beauty; if he doesn't, the poet prognosticates that the beloved's end is "Truth's and Beauty's doom and date".

Is Shakespeare telling us in Sonnet 14 that he "believes" that the stars do not move? He is rather, it seems to me, telling us that he is accepting "fixed stars" as poetic entities with whose help he hopes he will be able to persuade his beloved to marry and procreate. The

---

(50) Florio, *A Worlde of Wordes*, 1598 and 2013, p. 161 and p. 172. Id., *Qveen Anna's New World of Words*, p. 119 ("*constante*", "*constanza*") and p. 128 ("*costante*", "*costantia*", "*costanza*"). For "resolute" see above, footnote 45.

Fig. 6 - Giotto, *Inconstantia*. Padua, Arena Chapel, 1303-1305.

poet reads in his beloved's eyes that if he decides to marry, "Truth and Beauty" "will thrive", if he doesn't (i.e. if the beloved does not believe the poet's prognostication), "Truth and Beauty" will be his "doomday" ("doom and date"). A richly ironic ending, in which there is space also for self-irony.

Shakespeare's astronomy has a both poetic and scientific dimension. A combination of scholarly and literary can also be found in John Florio's *Worlde of Wordes*, where the cumulative abundance of words constitutes a literary feature in its own right:

Astragalomantia, a divination or casting of lots with dice, or hucklebones.
Astrapia, a kind of whitish, and greenish stone.
Astrea, taken for justice, the daughter of Astrea and Aurora.
Astrio, a precious stone in India with a shining star in the centre or midst of it.
Astro, a starre.
Astroide, a stone which being laide upon marble wet with vinegar or juice of limons doth stirre and creepe away.
Astrolabio, an astrolabe, an instrument whereby the motions of the stars is gathered.
Astrologare, to play the Astrologer.
Astrologia, Astrologie.
Astrologo, an Astrologer.
Astronamo, an Astronomer.
Astronomare, to plaie the Astronomer.
Astronomia. Astronomie.
Astronomizzare, as Astronomare.
Astronomo, an Astronomer.
Astura, a shell-fish called a nakre.[51]

Five out of the above-listed terms are not to be found in the Accademia della Crusca's *Vocabolario* (1612), Italy's first national dictionary.[52] Perhaps they are to be found in some of Florio's 242 Italian sources listed in the 1598 edition of his *Worlde of Wordes*, or they could be John Florio's own invention.[53] In any case, one can see that Shakespeare shared with the other major linguist of his time the same interest in "micro-languages" and the same notion of literature as a (pleasurable) science in its own right.

5. As those gold candles fixed in heaven's air": Sonnet 21

Sonnet 21 provides a more dramatic example of ironic dealing of poetic clichés and linguistic creativity. In the first two quatrains the poet states that he is different from that Muse who responds to

(51) J. Florio, *A Worlde of Wordes*, 1598 and 2013, pp. 74-75. Id., *Qveen Anna's New World of Words*, pp. 44-45.

(52) *Vocabolario degli Accademici della Crusca. Con tre Indici delle voci.[,] locuzioni e prouerbi, Latini e Greci, posti per entro l'Opera. Con privilegio del Sommo Pontefice, Del Re Cattolico, della Serenissima Repubblica di Venezia, e degli altri Principi, e Potentati d'Italia, e fuor d'Italia, della Maestà Cesarea, Del Re Cristianissimo, e del Sereniss. Arciduca Alberto*, In Venezia, appresso Giouanni Alberti, 1612.

(53) J. Florio, *A Worlde of Wordes*, 2013, p. 21-22.

an artificial beauty's call. This Muse (i.e. the false poet) mechanically produces comparisons between the beloved and heaven's and earth's ornaments, which our poet regards as arrogant and untrue. In the third quatrain the poet advocates his right to sincerity:

> So it is not with me as with that Muse,
> Stirred by a painted beauty to its verse,
> Who heaven itself for ornament doth use,
> And every fair with his fair doth rehearse,
> Making a couplement of proud compare
> With sun and moon, with earth and sea's rich gems,
> With April's first-born flowers, and all things rare
> That heaven's air in the huge rondure hems.
> (Lines 1-8).

The poet's love is not a "fake beauty" ("painted beauty") that one could embellish by using "heaven itself for ornament". The poet refuses to extol his beloved by diminishing the other beauties, thus he will not compare him "with sun and moon, with earth and sea's rich gems, / With April's first-born flowers, and all things rare / That heaven's air in the huge rondure hems" just to prove that he is the fairest one of all.[54] Even the "heaven's air", that "hems" the huge round globe itself, is rejected as an unwanted term of comparison. What the poet wants, is truth and sincerity. The poet is willing to compare his love rather to a mother's child. The poet's love is "fair", but only "as any mother's child":

> O, let me, true in love, but truly write,
> And then, believe me, my love is as fair
> As any mother's child, though not so bright
> As those gold candles fixed in heaven's air.
> Let them say more that like of hearsay well;
> I will not praise that purpose not to sell.
> (Lines 9-14).

([54]) Sonnet 21 follows Sonnet 20, in which the poet implicitly describes his love as a Platonic love in which sex has no part, given that Nature, in "working" the beloved, had first made him a female, except that the creature's beauty made her change her mind, to better suit her own preference. Nature thus added to her creature that which deprives the poet of the possibility of love-making to his beloved, leaving the latter's "love's treasure" for women to enjoy. If the beloved has remained the same, also Sonnet 21 has a male interlocutor.

"Those gold candles" express the utmost distance from the cliché stars that have been/are the subject-matter of "proud" comparisons by would-be poets; clearly Shakespeare's irony is directed in the first place to *their* false beauty. If Romeo had a right, being a true lover and a true poet, to use traditional comparative terms (stars and eyes), the same does not apply to false poets or non-poets. Irony strongly charcaterises our poet's ethic choice: his love is pure (it is "as fair /As any mother's child) even though this implies loss of brightness ("though not so bright / As those gold candles fixed in heaven's air"). After making his point, the poet concludes: "Let them say more that like of hearsay well" ("let those continue to speak who like to talk from hearsay"); / I will not praise that purpose not to sell" ("I will not praise my love, since I do not wish to sell it"). True love does not need praise.

The adjective "fixed" is a seeming reference to the immovability of the universe, a tenet of Aristotelian and Ptolemaic cosmology. "Those gold candles fixed in heaven's air" sound like an ironic reversal of the old-fashioned "proud" theory according to which the stars do not move but are passively dragged on by the diurnal rotation of the eighth sphere (as the heavenly vault was called for many centuries). If this is so, through this revolutionary notion expressed by means of irony, i.e. the rhetorical figure that "reverses" meanings, the notion of a huge – if not infinite – universe makes its way into the *Sonnets*.

The precious neologism, apparently a borrowing from French, in fact a newly created word, subtly reinforces the revolutionary quality of Sonnet 21.[55] The universe, Tycho Brahe had hypothesised, is neither earth-centred nor sun-centred (as Copernicus had thought) but tends to infinity. This was Bruno's position, which he formulated during his London sojourn around the middle of the 1580s. Bruno had actually imagined a system made of infinite worlds: "the universe as infinite worlds". Bruno's stay at the French ambassador's home in London (Salisbury Court on the Thames river) in 1584-85, where he wrote his most significant treatises on the universe (the so-called

(55) *Oxford English Dictionary* (www.oed.com): "rondure": "roundness; (also) a circle or round object". As the *OED* indicates, it is a borrowing from French "*rondeur*". Interestingly, Shakespeare uses another French suffix instead of the one available in French: "*-ure*" instead of "*-eur*". Under "rondure" the *OED* refers to "roundure", another neologism, first used by Thomas Dekker in *Old Fortunatus* ("roundure": "Roundness; rounded form or space. Formerly also as a count noun: †a round form, space, or object (*obs.*)". The symbol "†" indicates that the word is no longer in use or obsolete.

"London treatises" or "Italian treatises") was no doubt a giant step in the spreading of Copernicus's and Brahe's views in England.

Though Oxford rejected Bruno, and though he caused a havoc at the more or less fictional "Ash Wednesday dinner" at Fulke Greville's house which is at the centre of his dialogue *La cena de le Ceneri* (1584),[56] the fiery Neapolitan left his mark on English culture, a circumstance generally neglected by Shakespeare's scholars. No less worthy of note but equally neglected, in Shakespeare scholarship, is John Florio's joining of Salisbury Court, officially to serve as preceptor for the daughter of the enthusiastic French ambassador, Michel de Castelnau, Sieur de la Mauvissière. Florio's arrival as live-in guest in September 1584 gave no doubt an added humanist value to this already vibrant palace overlooking the River Thames. Florio would not forget his friend, "Nolano" (Bruno was born in Nola, not far from Naples). One of the protagonists of his second collection of dialogues, *Second Fruites*, of 1591, is Nolano. Curiously, Shakespeare uses a similar name to Bruno, "Berowne", for one of the leading characters of *Love's Labour's Lost* (1598), the play centred on an impossible pledge (living far from women for three years for a full immersion in books).

Shakespeare's *Sonnets* are revolutionary in their own right, in the first place poetically. For one thing, they contain love poems dedicated to a fair young man. The Platonic love described in Sonnet 20 clashes with the jealousy of later sonnets. Furthermore, though coloured by self-irony and melancholy, a powerful eroticism runs through the entire work, reaching its peak with the Dark Lady's breaking into the scene in Sonnet 127. Finally, the Dark Lady too is totally subversive: she is the negation of the Petrarchan *topos* of the "golden-haired" Laura. Her eyes are "raven black" (Sonnet 127, line 9) and one understands immediately she is not bound to embody Petrarch's Laura's spiritual charm.[57] Curiously, Petrarch's song which mentions Laura's "golden hair" is number 127, the same number as Shakespeare's Dark Lady's entrance sonnet, yet the two poems could not be any more different. However, drama is tempered with irony, specifically self-irony, throughout Shakespeares' sonnet sequence and right to the end, the memorable Sonnet 154 that sees baby Eros triumph over nymphs and humans alike while lying asleep.

([56]) This famous "Copernican" supper is discussed in Bossy's *Giordano Bruno and the Embassy Affair*; see especially Part 1, Ch. 1 ("Salisbury Court and Vicinity"), pp. 8-21 and ibidem, Ch. 2 ("On the River"), pp. 22-27.

([57]) PETRARCH, *Canzoniere*, 127, line 84: "I capei d'oro".

Sonnet 21 strongly suggests that Shakespeare's irony extends towards the notion of a limitless universe. Furthermore, it is an example of the necessity for scholars to take into account whole poetic units as opposed to isolated lines (as the unfortunate "little Latin and small Greek" refrain demonstrates).

One last remark: the "speare" contained in Shakespeare's name refers not simply to the weapon (Minerva's rather than the battle field's one) but also to the globe, the "sphere", which in the late Medieval and Renaissance period was also spelled "spear" – just like in Dante's *Paradise* the "sphere" is "*spera*" as opposed to "*sfera*". Whereas William from Straford was born "Shakspere" and died "Shakspeare", and the six extant shaky signatures include one "Shakp", one "Shakspēr", one "Shakspē" and, on the testament, "Shakspere" (twice) and, on the last page, "Shakspeare", the author Shakespeare signs his works (when they are not published anonymously) as either Shake-Speare (I counted 27 editions) or Shakespeare (I counted 18 editions). I found only one "Shak-speare" and one "Shakespere".[58]

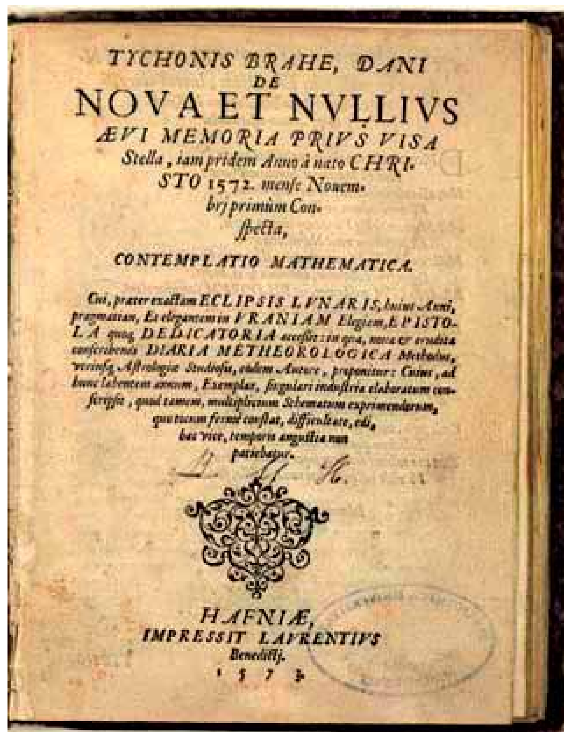
6. Comets and portents

Comets played a fundamental part in the shaping of the new science. The passing over Europe of the so-called Great Comet of 1577 filled with enthusiasm, among others, Danish astronomer Tycho Brahe, fueling his theory which he had postulated in his *De stella nova* (1573) that stars, too, partake in the general cosmic movement (Figure 7).[59] Brahe's theories were "hybrid", Usher notes, but they would not be contradicted by his astronomical observations of a new comet in 1585. The stars' movement indirectly supported the Copernican view of planets' movement. It was a new shattering realization.

Halley's comet passed in 1607. Comets are blazing stars, namely, "burning fires", "stars full of fire". In *The Taming of the Shrew* (first published 1623) Petruchio mocks his peers who are terrified by Katherina. He asks them a series of questions which imply that he is not at all afraid of his terrible young bride whom even her father, Battista, fears to approach.

(58) Orsi, *William Shakespeare and John Florio*, section 2.4 ("Un nome d'arte, un nome ad arte"), pp. 192-198 and 201-203. *OED*, "*spear, n. 1*" e "*sphere, n.*"; ("n" = "noun").

(59) Usher, *Shakespeare and Saturn*, p. 17.



TYCHONIS BRAHE, DANI
DE
NOVA ET NVLLIVS
ÆVI MEMORIA PRIVS VISA
Stella, iam pridem Anno à nato CHRI-
STO 1572. mense Nouem-
bri primùm Con-
specta,

CONTEMPLATIO MATHEMATICA.

Cui, præter exactam ECLIPSIS LVNARIS, huius Anni, pragmaticam, Et elegantem in VRANIAM Elegiam, EPISTOLA quoque DEDICATORIA accessit: in qua, noua & erudita conscribendi DIARIA METHEOROLOGICA Methodus, vtriusque Astrologiæ Studiosis, eodem Autore, proponitur: Cuius, ad hunc labentem annum, Exemplar, singulari industria elaboratum conscripsit, quod tamen, multiplicium Schematum exprimendorum, quæ tantum fermè constat, difficultate, edi, hac vice, temporis angustia non patiebatur.

HAFNIÆ,
IMPRESSIT LAVRENTIVS
Benedictj.
1573.

Fig. 7 - Tycho Brahe. *De stella nova*, 1573.

> But where is Kate? Where is my lovely bride?
> How does my father [father-in-law]? Gentles, methinks you frown.
> And wherefore gaze this goodly company
> As if they saw some wondrous monument,
> Some comet or unusual prodigy?
> (III.ii.93-97).

Petruchio uses two rhetorical figures and blends them together: "*enumeratio*" ("enumeration") and "*copia*" ("abundance"). The "enumeration" effect is given by the four questions. They are in a crescendo, which adds to their comical effect: "But where is Kate", "Where is my lovely bride?", "How does my father?", "And wherefore gaze this goodly company, as if they saw (…)?".

The last of the four questions contains a "*copia*": "(…) some wondrous monument, / Some comet or unusual prodigy?" Monument, comet, prodigy look at first sight as part of the same semantic family.

As a matter of fact, a monument cannot be compared to a comet or a prodigy. Comets were traditionally associated with prodigies and forebodings of either good or (typically) disastrous events. But what does "monument" mean here? A monument is a physical and solid form of commemoration. It commemorates a past event, a dead person whose memory needs to be celebrated, but it also evokes a statue. "Comet" is the central term. As a rarity a comet is a prodigy; as a star, it is a beautiful blazing apparition. Petruchio is saying that Katherine is stupendous. But he does so with his rude manner, with which he hopes to win her heart now that he has married her (in the Church of Saint Luke in Padua).[60]

A "wondrous monument" is a Shakespeare's invention, whereas "comet" and "unusual prodigy" are a mix of extant scientific and literary terms. John Florio defines a "*cometa*" as " a comet, a blazing star".[61] The definition of "*prodigio*" is in his typical style replete with "*copia*": "*Prodigio*, a prodigie, a wonder, a thing monstrous and unnatural, a thing seldom seene, which signifieth that some great good or evill shall follow". The same applies to the following entry: "*Prodigioso*, prodigious, monstruous, unnaturall, wondrous, that giveth a strange signe or token, woonderfull, contrarie to the common course of nature." The 1611 definition changes slightly: "*Prodigioso*, prodigious, monstrous, forboding strange signes of some good or evill."[62] Almost the same definition is given for "*portente*" and "*portento*": "*Portente*, monstrous, strange prodigious, marvelous, seldome seene, betokening good or ill;" "*Portento*: a thing monstruous, strange, and seldome seen, a marvelous thing, forboading some mischance or evill fortune to come."[63] "*Portentoso*, as *Portente*" closes this sequence of terms.[64] Our impression that Katherine is breathtakingly beautiful is correct: she is a portent, a statue, but not of a sad type. She is a Venus. "Monstrous" in Latin means "exceptional", "extraordinary". "A wondrous monument" is a "monstrous beauty", a

(60) Richard Paul Roe, *The Shakespeare Guide to Italy: Retracing the Bard's Unknown Travels*, introduction by D. Wright, New York etc, Harper Perennial, 2011, Ch. 4 ("The Taming of the Shrew: 'Pisa to Padua'"), pp. 86-113 (99-100).

(61) J. Florio, *A Worlde of Wordes*, 1598 and 2013, p. 153; Id., *Qveen Anna's New World of Words*, p. 111.

(62) Id., *A Worlde of Wordes*, 1598 and 2013, p. 517; Id., *Qveen Anna's New World of Words*, p. 402.

(63) Id., *A Worlde of Wordes*, 1598 and 2013, p. 501; Id., *Qveen Anna's New World of Words*, p. 392.

(64) *Ibidem*.

Venus but not in stone. Petruchio's irony could not be any more fiery.

7. Macbeth: "Thou sure and firm-set earth..."

The tragedy of Macbeth is based on equivocation. The Weird Sisters use words in a deceptive way and Macbeth accepts their literal meaning. The play opens on a heath, where three witches are saying bye-bye to one another:

> *I Witch.* When shall we three meet again?
> In thunder, lightning, or in rain?
> *II Witch.* When the hurlyburly's done,
> When the battle's lost and won"
> (I.i.3-4).

The logical confusion arisen by the witches' talk at the beginning of the play sets the tone for their future meeting with Macbeth. During the fatal encounter with the three witches, not many lines further down, Macbeth becomes "charmed" because he takes them literally. If he did not, he would realise that they are but trying to lose him. He will become king but he will not be happy for it.

In-between the first scene and the third we learn that Macbeth was "brave" ("brave Macbeth") during a battle that has just been fought and won. However, we realise that the ambiguous atmosphere with which the play started is still active:

> *[Cap.]* For brave Macbeth (well he deserves that name),
> Disdaining Fortune, with his brandish'd steel,
> Which smok'd with bloody execution,
> Like Valour's minion, carv'd out his passage,
> Till he fac'd the slave;
> Which he ne'er shook hands, nor bade farewell to him,
> Till he unseam'd him from the nave to th'chops,
> And fix'd his head upon our battlements.
> (I.i.16-23).

Though upon hearing this report Duncan exclaims "O valiant cousin! Worthy gentleman!" (I.1.24) one can see that Macbeth has a predisposition to murder and an inner cruelty which are destined to show themselves. One also senses that Macbeth acts bigger than he is, that

he has a predisposition to feeling small and therefore act big. Duncan does not sense Macbeth's violent nature, nor his sense of inferiority, so when time comes he will not hesitate to accept his invitation to dine and spend the night at his castle. Duncan's good faith/naïveté will add to Macbeth's guilt.

Scene 2 closes with Rosse and Angus reporting to Duncan about Macbeth's prevailing over the treacherous Thane of Cawdor. On the literal level, Macbeth is depicted as a valiant fighter, but, once again, we sense an indication to the contrary:

> *Dun.*
> Whence came thou, worthy Thane?
>
> *Rosse.*
> Where the Norweyan banners flout the sky,
> And fan our people cold. Norway himself,
> With terrible numbers,
> Assisted by that most disloyal traitor,
> The Thane of Cawdor, began a dismal conflict;
> Till that Bellona's bridegroom, lapp'd in proof,
> Confronted him with self-comparisons,
> Point against point, rebellious arm 'gainst arm,
> Curbing his lavish spirit: and, to conclude,
> The victory fell on us.
>
> *Dun.* Great happiness!
> (I.i.49-59).

The captain's words project their shadow over this dialogue: we cannot help suspecting that Rosse's metaphor, "that Bellona's bridegroom", is in fact a hyperbole, namely an indirect (*authorial*) clarification that Macbeth is no hero, but, rather, a parody of one, made smaller by the comparison with none less than Mars, the god of war ("Bellona's bridegroom"). The reader and the spectator too are caught in this net of ambiguity: if we thought that Macbeth and Cawdor's duel ended with the latter's death we are proved wrong in the scene's concluding lines:

> *Dun.* No more that Thane of Cawdor shall deceive
> Our bosom interest. – Go pronounce his present death,
> And with his former title greet Macbeth.
> (I.i.65-67).

Macbeth is the new Thane of Cawdor. We do not know yet that he, too, is a "thane" (a Scottish baron): the Thane of Glamis. We will

learn it shortly, in the dramatic scene of his encounter with the three witches. A tragic irony, at content level, will be given by the fact that also the "New" Thane of Cawdor" will be treacherous, to the point of murdering his cousin, trustful King Duncan.

Scene 3 opens with the three witches meeting again. They ask one another what they have been up to in the meanwhile. Each of them has a sinister account about devilish things she has performed at sea and on land. This first part of scene 3 closes with the witches "winding up the charm":

> *3 Witch.* A drum! A drum!
> Macbeth doth come!
> *All.* The Weird Sisters, hand in hand,
> Posters of the sea and land,
> Thus do go about, about:
> Thrice to thine, and thrice to mine,
> And thrice again to make up nine
> Peace! – the charm's wound up.
> (I.iii.30-37).

Macbeth and Banquo enter the scene. Suddenly the three Weird Sisters appear. Banquo speaks first. He is mystified by the three creatures' appearance, yet he cannot stop asking them questions. Neither Banquo nor Macbeth feel like running away. We will find out later that Banquo too has fallen a victim of the witches' riddle. His succession of questions to them suggests that he too is ready to fall into their charm:

> *Enter Macbeth and Banquo.*
>
> *Macb.* So foul and fair a day I have not seen.
>
> *Ban.* How far is't call'd to Forres? – What are these,
> So wither'd and so wild in their attire,
> That look not like th'inhabitation o'th'earth,
> And yet are on't? Live you? Or are you aught
> That man may question? You seem to understand me,
> By each at once her choppy finger laying
> Upon her skinny lips: you should be women,
> And yet your beards forbid me to interpret
> That you are so.
>
> *Macb.* Speak, if you can: - what are you?
> (I.iii.38-47).

Whereas Banquo is taking his time evaluating the three creatures' appearance, Macbeth asks them to speak (he trusts their word despite their ghastly appearance). On the whole, Banquo and Macbeth fall victims of the witches' charm because they nurture unlawful ambitions, as will become clear, but they do so because they judge at face value (literally).

The three Weird Sisters answer with words that *per se* are partly accurate and partly deceptive. However, on the whole they are totally deceptive: they mean something different from what they say:

> *1 Witch.* All hail, Macbeth! Hail to thee, Thane of Glamis!
> *2 Witch.* All hail, Macbeth! Hail to thee, Thane of Cawdor!
> *3 Witch.* All hail, Macbeth! That shalt be King hereafter.
> (I.iii.48-50).

The witches tell the truth and lie at the same time. As we find out later, there was a time when Macbeth had considered eliminating Duncan (I.iii.151). The witches' words have re-activated his murder dream, but this can happen because he takes the witches' words literally. He *is* Thane of Glamis. As soon as he hears, moments after the above-quoted triple salutation, that he is now Thane of Cawdor *too*, the witches' charm becomes double bound.

We know from the beginning, from even before the fatal encounter, that the three horrid creatures are at the Devil's service, that whatever they are going to do will be the opposite of good. "Fair is foul, and foul is fair" (I.i.11). This first riddle is total equivocation. Shortly after the witches have vanished, Rosse and Angus enter the scene with the announcement that Macbeth has been made Thane of Cawdor. Macbeth writes the famous letter to Lady Macbeth. When the supper is almost over, Macbeth hesitates. Lady Macbeth, who upon hearing the news of the witches' prediction (I.v.40-41) had asked the "Spirits / That tend on mortal thoughts" to "unsex" her (a neologism),[65] now spurs his weak will by asking him a series of questions aimed at making him feel not like a man if he does not "act":

> Was the hope drunk,
> Wherein you dress'd yourself? Hath it slept since?
> And wakes now, to look so green and pale
> At what it did so freely? From this time
> Such I account thy love. Art thou afeard

(65) *OED*, "unsex", verb.

> To be the same in thine own act and valour,
> As thou art in desire? Would'st thou have that
> Which thou esteem'st the ornament of life,
> And live a coward in thine own esteem,
> Letting ' I dare not' wait upon I 'would',
> Like the poor cat I'th'adage?
> (I.vii.35-45).

Macbeth has desires that he is not autonomously capable of realising. If he does not murder Duncan he will live to be a coward; this is Lady Macbeth's fatal condemnation.

Later on, Macbeth is finally alone. Everyone has retired to sleep. The last servant leaves the scene. Macbeth sees a dagger appear. We gather from his words that the dagger appears and disappears, to then appear and disappear again:

> Is this a dagger, which I see before me,
> The handle towards my hand? Come, let me clutch
> thee: –
> I have thee not, and yet I see thee still.
> Art thou not, fatal vision, sensible
> To feeling, as to sight? Or art thou but
> A dagger proceeding from the heat-oppressed brain?
> I see thee yet, in form as palpable
> As this which now I draw.
> Thou marshall'st me the way that I was going;
> And such an instrument I was to use.–
> Mine eyes are made the fools o'th'other senses,
> Or else worth all the rest: I see thee still;
> And on thy blade, and dudgeon, gouts of blood,
> Which was not so before. – There's no such thing.
> It is the bloody business which informs
> Thus to mine eyes.–
> (II.i.33-49).

Is the dagger Macbeth's imagination or a "real" one conjured by the witches? Macbeth does not ask himself this question. He is so deep through his crime project. Only later will it become apparent that the witches can conjure spirits and make things appear and disappear (IV.i.69-132). However, we have already seen the witches appear and "vanish" twice so far.

The dagger has vanished. Macbeth could act now, but keeps on talking to himself:

> Now o'er the one half-world
> Nature seems dead, and wicked dreams abuse
> The curtained sleep: Witchcraft celebrates
> Pale Hecate's off'rings; and wither'd Murther,
> Alarum'd by his sentinel, the wolf,
> Whose howl's the watch, thus with his stealthy pace,
> With Tarquin's ravishing strides, towards his design
> Moves like a ghost. Thou sure and firm-set earth,
> Hear not my steps, which way they walk, for fear
> The very stones prate of my where-about,
> And take the present horror from the time,
> Which now suits with it.– Whiles I threat, he lives:
> Words to the heat of deeds too cold breath gives.
> [*A bell rings.*
> I go, and it is done: the bell invites me.
> Hear it not, Duncan; for it is a knell
> That summons thee to Heaven, or to Hell.
> (II.i.49-64).

"Murther" is a personification of Macbeth by Macbeth himself. "Murther" takes the form of Tarquin, the last king of Rome's son who abuses Lucretia in Livy's account. Duncan implicitly becomes Lucretia. In other words, Macbeth has taken the role of Sextus Tarquinius, Tarquin the Proud's son – a violent prince. (It is worth remembering that following Lucretia's rape by Tarquin the Superb's son, Brutus decided that there would no longer be a monarchy in Rome, and the Roman republic had begun). Duncan, potentially a paternal figure for Macbeth (he is Macbeth's king) becomes a woman whom Macbeth is about to rape/kill. This transfert will make Macbeth's exclamation a little further down (II.ii.34-35), "Sleep no more! Macbeth does murther Sleep, the innocent Sleep", particularly tragic. Earlier on, Lady Macbeth had spurred Macbeth to "look like th'innocent flower" (I.v.65). This non-innocent flower is now, by a double tragic irony, Lucretia-Duncan.

"Murther"/Macbeth moves like "a ghost". Next Macbeth addresses the earth by calling it "sure and firm-set", inviting it to not hear his steps. Given the context, this "sure and firm earth" comes in as a blasphemy. One senses that it belongs to this reality morally upside-down – an unconsciously ironic definition of what is to be expected in the "real world" outside of this crime scene, outside of this scene marked by horror and ethical ignorance. Even the bell partakes of this ironic ignorance in which Macbeth is immersed full neck. Instead of coming back to his senses, Macbeth takes the bell's toll to be an encouragement for him to enter Duncan's bedchamber and murder the king.

After the murder, Macbeth and Lady Macbeth are living each a personal nightmare. Macbeth imagines that his hand would "incarnadine" the "multitudinous" oceans if he were to try to immerse it in the ocean to clean it. "Incarnadine" is a neologism. It means "to redden". It is made of the word for "flesh" and "meat" in Latin ("*car, carnis*") and Italian ("*carne*"). In John Florio's *Worlde of Wordes*, of 1598, we find the adjective "*Incarnadino*, *Incarnatino*, a carnation or flesh colour".[66] The first recorded use of the verb "incarnadine" dates to possibly only one year later and is found in *Machbeth*.[67]

After Banquo's murder Macbeth visits the witches. We are in Act IV, 1. The three sisters are busy over a cauldron when he arrives. Upon Macbeth's request (he is now actively addressing the Devil) they conjure up for him a series of apparitions that "wind" him further into their charm, convincing him about his invincibility. But these are but tricks, once again. In this third and last encounter with the Weird Sisters, Macbeth thus becomes "triple wound", echoing the witches' charm prior to their first encounter ("Thrice to thine, and thrice to mine, / And thrice again, to make up nine": I.ii.35-37). The witches' purpose is not just to lead Macbeth to Hell (where one can argue that he was bound to go anyway) but to make him suffer as much as possible in the process – to trick him into equivocation. Macbeth is immersed in a tragic irony. His ignorance of what is happening is of the fatal type, the one which is repeatedly warned against in the Bible.

Macbeth's mind is inclined toward evil, but it is the three Weird Sisters who set the action into motion, offering both an earthly "occasion" and a supernatural "justification" to his desire to become king regardless of his right to. This element (the pre-existence of a murderous plan) is Shakespeare's invention. It is not found in Shakespeare's source, Henry Holinshed's *Chronicles of England, Scotlande, and Ireland* (1577-87).[68]

Macbeth's "error" is in the first place one of "interpretation". Macbeth misinterprets the Weird Sisters (their sight and their words). As a mis-interpreter, a bad translator and somebody who cannot decipher what he sees and hears, he is totally unreliable, so there is no way we can trust him when he describes the earth as "sure and firm-set".

(66) J. Florio, *A Worlde of Wordes*, 1598 and 2013, p. 312; Id., *Qveen Anna's New World of Words*, p. 243.

(67) *OED*, "incarnadine", verb; "incarnadine", adj.

(68) Henry Holinshed, *Chronicles of England, Scotlande, and Irelande (…)*, At London. Imprinted for Lucas Harrison, 1577, vol. 5, p. 268 and ff.

The earth crumbles under Macbeth's feet in Act V, first when he sees the forest of Birnam walk towards his castle, then when Macduff retorts to him that he was born out of his mother's womb (by what we would call a Caesarean section). Macbeth has time to realise, finally, that the apparitions conjured by the three witches over the cauldron in Act IV were as true as false.

Conclusion

Irony encapsulates a "word" and a "thought". One needs a word to express irony, but also a context. My study has showed that the presence of traditional elements such as the fixity of the stars is not in conflict with Shakespeare's advanced astronomical culture. In particular, it has emerged that Shakespeare's cosmos relies on the reader's and spectator's capacity to read it also in a figurative way and in-between the lines, namely in their capacity to share their author's culture.

An in-context reading of *Macbeth*'s passage where the protagonist refers to the earth as "sure and firm-set" offers a clear indication that Shakespeare was far from being a Ptolemaic and was, on the contrary, an ironic Copernican, namely a Copernican ready to ironize on the old beliefs. Macbeth falls a prey of the forces of evil, whose number one characteristic is verbal equivocation. Their purpose is to induce human beings into error. From an "error" of "interpretation" to eternal damnation the step is short. Macbeth misinterprets the Weird Sisters (their sight and their words). As an equivocator in his own right, namely as a bad translator and somebody who cannot decipher what he sees and hears, and, added to this, as somebody who has chosen the path of evil, he is totally unreliable, so there is no way we can trust him when he describes the earth as "sure and firm-set". Macbeth's mind is infected, and so is (by contagion), at a subtle level of analysis, the old view of a "firm-set earth".

Shakespeare's linguistic philosophy as can be inferred from his linguistic creativity can be viewed as a belief in words' power to regenerate themselves and expand *ad infinitum*. Similarly to atoms according to Bruno, words are limitless according to Shakespeare, provided that we too partake in this vision. The world is made of words, as the titles of John Florio's dictionaries, *A Worlde of Wordes* and *Qveen Anna's New World of Words*, also suggest. Bruno's notion that an atom is a world in its own right is embodied in Shakespeare's (and Florio's) word-creating activity.

Shakespeare's adherence to the new astronomy (and Bruno's philosophy) does not bring with it a dropping of the old poetic world, nor an automatic, matter-of-fact utilization of it. The old world is integrated but constantly reevaluated based on the context – the text's mood and message – and irony is always there to help. The compresence of old and new – but also of physical and allegorical – in Shakespeare's output on the subject of the heaven is a consequence of his classical philosophical culture, the quintessence of which is critical evaluation. Shakespeare shares this method with the "main characters" of the early scientific revolution. In literature a critical mind's best ally is irony. For a non-conformist poet as Shakespeare was, irony is comparable to the astronomer's telescope, which allows the astronomer to debunk received theories. There is a recompense to be had: the scientist's privilege is to see the invisible, the poet's one is to smile. As Francesco Orlando teaches us, "It is possible to tell the truth with pleasure."[69]

Shakespeare teaches us that it is possible to love stars and comets and smile at the old age's clichés as well as at one's age's beliefs, but also at oneself (self-irony) and even at one's love for clichés (viz. Petrarchan love) while at the same time creating "realistic" characters and moods. By including in his works old and new ways of looking at the sky, and by dealing with them with linguistic wisdom and irony Shakespeare achieves his mission as a poet, a linguist, i.e. a scientist of the language – specifically a polyglot linguist – and a supporter of the new world.

The old view of a Shakespeare indifferent or avert to the new sky is grounded on the incorrect idea of a monoglot Shakespeare. It is to be hoped that the new perspective of Shakespeare's cosmos as has started to emerge will not be overlooked. The Shakespeare's academic world has long appeared as "sure and firm-set" as Macbeth's earth.

"*Ironia*. A figure in speaking
when one meaneth contrarie
to the word, a mocking or scoffing."

John Florio, *A Worlde of Wordes*.[70]

([69]) ORLANDO, *Illuminismo e retorica freudiana*, Ch. 1.
([70]) J. FLORIO, *A Worlde of Wordes*, 1598 and 2013, p. 345.