Shakespeare in Tune with the Symphony of Nature in a Single Note - Birth of "The Fair Youth" of the Sonnets

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Abstract

This introductory paper provides supportive evidence that the Shakespeare plays were written during periods of profound harmony when the Divine or Infinite Mind resonated with that of the author to be born in him as the "fair youth" and "the better part of me" of the Sonnets, as originally proposed by R. M. Bucke. Several of the Sonnets are explicitly supportive of this interpretation and are mentioned here. According to Poet Laureate of the time John Dryden: "Shakespeare was naturally learned; he needed not the spectacles of books to read Nature. He looked inwards and found her there." Shakespeare Sonnet 8 is shown here to refer poetically to the harmonic or overtone series in music and mathematics investigated by Pythagoras and surely known to the Shakespeare author, along with Boethius's theory of the music of the spheres. Superstring theory "speaks" the same musical language. Resonance and a holographic universe may be the key to understanding Nature and her human offspring. Such correspondences give us the opportunity to appreciate another formulation of physical reality that is as mathematically valid as our familiar 3D, space-time universe. Actuality, where the universe's real physical processes take place, is then seen to be on a distant 2D surface like a hologram. If we follow Shakespeare's example and enter into the universal rhythm of Life, we may also "[find] her there."

Shakespeare en harmonie avec la nature et avec le rythme universel de la vie - Naissance de « La Belle Jeunesse » des Sonnets

par Christopher Eriksson, PhD

Résumé

Cet article fournit la preuve, par le biais de références étayées, que les œuvres théâtrales de Shakespeare ont été écrites au cours de périodes d'harmonie profonde où l'Esprit Divin, Infini, résonnait avec celui du poète, faisant naître en lui la « Belle Jeunesse » et « le meilleur de moi » des Sonnets, ainsi que l'a, pour la première fois, proposé le psychiatre canadien du XIXe siècle Richard Maurice Bucke. De nombreux Sonnets, mentionnés dans cet article, sont explicitement favorables à cette interprétation. Selon le « poète lauréat » John Dryden (1631-1700), « Shakespeare apprenait instinctivement, il n'avait pas besoin de lire des livres pour comprendre la nature. Il tournait son regard vers son for intérieur et la découvrait ». L'article démontre que le Sonnet 8 se réfère à la série harmonique, en musique et dans les mathématiques, étudiée par Pythagore et que Shakespeare certainement connaissait, ainsi qu'à la théorie de Boèce sur la « musique des sphères ». La « théorie des supercordes » « parle » le même langage musical. La résonance et un univers holographique peuvent être la clé pour comprendre la nature et sa

progéniture humaine. De telles correspondances nous confèrent l'opportunité d'apprécier une autre formulation de la réalité physique, aussi mathématiquement valable que notre univers familier, tridimensionnel, d'espace-temps. L'actualité, où se déroulent les véritables processus physiques de l'univers, est alors vue sur une surface lointaine bidimensionnelle, semblable à un hologramme. Si nous suivons l'exemple de Shakespeare et entrons dans le rythme universel de la Vie, nous pouvons également la trouver « là-bas ».

Shakespeare en Sintonía con la Naturaleza y el Ritmo Universal de la Vida - Nacimiento de "La Bella Juventud" de los Sonetos

Christopher Eriksson, PhD

Resumen

Este artículo introductorio proporciona evidencia de apoyo de que las obras de Shakespeare fueron escritas durante períodos de profunda armonía cuando la Mente Divina o Infinita resonó con la del autor para nacer en él como la "hermosa juventud" y "la mejor parte de mí" de los Sonetos, como lo propuso originalmente R.M. Bucke. Varios de los Sonetos apoyan explícitamente esta interpretación y se mencionan aquí. Según el Poeta Laureado de la época John Dryden: "Shakespeare fue culto por naturaleza, no necesitaba la presentación de los libros para leer la Naturaleza. Miró hacia adentro y la encontró allí ". El Soneto 8 de Shakespeare se muestra aquí para referirse poéticamente a la armónica o serie de armónicos en la música y las matemáticas investigada por Pitágoras y seguramente conocida por el autor de Shakespeare junto con la teoría de Boecio sobre la música de las esferas. La teoría de supercuerdas "habla" el mismo lenguaje musical. La resonancia y un universo holográfico pueden ser la clave para comprender la Naturaleza y su descendencia humana. Estas correspondencias nos dan la oportunidad de apreciar otra formulación de la realidad física que es tan matemáticamente válida como nuestro familiar 3D, espacio-tiempo universo. La actualidad, donde tienen lugar los procesos físicos reales del universo, se ve entonces en una superficie 2D distante como un holograma. Si seguimos el ejemplo de Shakespeare y entramos en el ritmo universal de la Vida, también podríamos "[encontrarla] allí".

Shakespeare em Sintonia com a Natureza e o Ritmo Universal da Vida -- Nascimento de "The Fair Youth" dos Sonetos

Christopher Eriksson, PhD

Resumo

Este artigo introdutório fornece evidências de apoio de que as peças de Shakespeare foram escritas durante períodos de profunda harmonia quando a Mente Divina ou Infinita entrou em sintonia com a do autor para nascer nele como o "jovem justo" e "a melhor parte de mim" dos Sonetos, como originalmente proposto por R. M. Bucke. Vários dos Sonetos apoiam explicitamente essa interpretação e são mencionados aqui. De acordo com o poeta Laureado da época, John Dryden: "Shakespeare era naturalmente culto, ele não precisava dos espetáculos dos livros para ler a Natureza. Ele olhou para dentro de si mesmo e a encontrou lá." O Soneto 8 de

Shakespeare é mostrado aqui para se referir poeticamente à série harmônica ou sobretom na música e na matemática investigada por Pitágoras, e certamente conhecida pelo autor de Shakespeare, juntamente com a teoria de Boécio da música das esferas. A teoria das supercordas "fala" a mesma linguagem musical. A ressonância e um universo holográfico podem ser a chave para entender a Natureza e sua prole humana. Tais correspondências nos dão a oportunidade de apreciar outra formulação da realidade física que é tão matematicamente válida quanto nosso familiar universo 3D, espaço-temporal. A realidade, em que os processos físicos reais do universo ocorrem, é então vista em uma superfície 2D distante como um holograma. Se seguirmos o exemplo de Shakespeare e entrarmos no ritmo universal da Vida, também poderemos "[encontrá-la] lá".

Shakespeare im Gleichklang mit der Natur und dem Universellen Rhythmus des Lebens – Geburt „des jugendlichen Charakters" der Sonette

Christopher Eriksson, PhD

Zusammenfassung

Diese Einführungsarbeit liefert Hinweise, die belegen, dass die Stücke von Shakespeare in einer Periode tiefer Harmonie und Resonanz mit dem göttlichen bzw. unendlichen Geist geschrieben wurden. Dies leitete in ihm die Geburt „des jugendlichen Charakters" und „des besseren Teil von mir" in den Sonetten, wie R.M. Bucke anfänglich erwähnte, ein. Etliche Sonette belegen explizit diese Auslegung und sind hier aufgeführt. Dem preisgekrönten Poet der damaligen Zeit, John Dryden, zufolge: „ war Shakespeare ein Naturtalent, er brauchte keine Vielzahl von Bücher, um die Natur zu lesen. Er schaute in sich rein und fand sie dort". Hier ist also ersichtlich, wie sein Sonnet 8 sich poetisch auf die Harmonie- und die Obertonlehre in der Musik und der Mathematik, die Pythagoras untersuchte und ihm sicherlich bekannt war, zusammen mit der Theorie von Boethius über die Sphärenmusik, bezieht. Die Superstring Theorie spricht die gleiche musikalische Sprache. Resonanz und ein holografisches Universum mögen einen Schlüssel zur Verständnis der Natur und das Hervorgehen der Menschheit sein. Diese Übereinstimmung erlaubt uns eine andere Formulierung der physischen Realität, die genauso mathematisch stichhaltig ist als unsere vertraute 3D Raum-Zeit Universum, zu betrachten. Die Aktualität, wo die wahren physischen Prozesse im Universum stattfinden, sieht man dann auf eine weit entfernte 2D Oberfläche wie ein Hologramm. Wenn wir das Beispiel von Shakespeare folgen und in dem universellen Rhythmus des Lebens eintreten, können wir „ihn dort finden".

Introduction

In 1901, Richard Maurice Bucke, MD, published *Cosmic Consciousness - A Study in The Evolution of The Human Mind* (Bucke 2011) in which he describes a state of human consciousness as far above self-consciousness as self-consciousness is above simple consciousness. Bucke cites the classic religious leaders as having experienced this enlarged consciousness, along with famous mystics such as John Yepes (John of the Cross), and Jacob Boehme. But he also includes philosophers, poets, and artists such as Plotinus, Francis Bacon, William Blake, Wordsworth, Walt Whitman, Balzac, and Dante, all of whom he finds to have

experienced an awakened and heightened state of consciousness at least once, and generally intermittently over time.

The prime characteristic of this oncoming, heightened, and intelligent state of "Cosmic Consciousness" is given by Bucke as "a sudden awareness of the life and order of the universe" characterized by an intellectual illumination of the mind and a moral elevation, as he tells us he himself experienced (Bucke 2011).

Of special note here is the fact that Bucke includes Sir Francis Bacon in his list (Bucke 2011, 187). He considers Bacon in his intermittent periods of illumination to have been the hidden author of the Shakespeare plays, as do others, such as Peter Dawkins (Dawkins 2004) and Virginia Fellows (Fellows 2006). The early Shakespeare sonnets are seen by Bucke as being penned by the "normal" self-conscious author as poetic testimony to his new and demanding "cosmic self."

Plotinus, the renowned Neo-Platonist ("neo" meaning new or revived, i.e Plotinus the new and revived Plato) of the third century CE names three broad ways to the In-finite* having experienced several "happy intervals" himself by the time he was fifty-six years old: (1) the love of beauty which exalts the poet and artist; (2) the devotion to The One and that ascent of science; and (3) that love and those prayers by which some devout and ardent soul tends in its moral purity towards perfection (Russell 1965, 289; Bucke 2011, 146).

Plotinus says these ways "conduct to that height above the actual and the particular, where we stand in the immediate presence of the In-finite, who shines out as from the deeps of the Soul."

"The better part of me" in Shakespeare's Sonnet 39 is viewed in this present paper as referring to the experiences of the Divine resonance apprehended by Shakespeare as "the fair youth." Bucke has a similar understanding in interpreting the Sonnets, although he does not frame his understanding in terms of resonance, science, or musical harmony, apart from his evolutionary standpoint, i.e. simple consciousness → self-consciousness → Cosmic Consciousness (Bucke 2011, 187-221).

In this paper we shall look at the modern science of resonance, but start with the classical writings of the Roman Boethius (ca. 480 – 524 CE) and the experimental work of the Greek Pythagoras (570 - 495 BCE).

Boethius, Pythagoras, and Resonance

The Roman philosopher and senator Boethius (ca. 480 – 524 CE), who was a Christian, but also a Platonist, is renowned for his *Consolations of Philosophy* (written under sentence of death just before he was executed) which the historian Edward Gibbon calls a "golden volume" (Russell 1965, 367). The influence of Boethius's writings was immense in the Middle Ages. Along with

* A hyphen in In-finite emphasizes that it is not a finite thing but something outside of the finite realm of the senses, more like the Indivisible.

Augustine and Aristotle, he was seen as *the* fundamental philosophical and theological author in the Latin tradition. He understands the mystic viewpoint that though there is by Nature only one Divine or Supreme Mind, that there may be many who participate through attunement and resonance with the fundamental rhythm and harmony of life (Russell 1965, 368).

To Plotinus as to Boethius and the ancient Hellenistic world, mathematics and numbers were inherently part of the Divine Mind, and *musica* too. John Stevens, in his book *Words and Music in the Middle Ages*, reminds us that only rarely is the Latin term *musica* precisely equivalent to the English word music. Medieval meanings of *musica* are sometimes "the theory of music," "the harmoniousness of sound waves in any medium," and "metaphorical music" (eg. of the heavens).

Stevens (1986, 20) writes: "The importance of having the mathematical basis of music established from the very earliest times cannot be exaggerated. No one could doubt that music and number were connected in their very essence."

Boethius (Marenbon 2003; Chadwick 1981) in *De Musica* lists:

> *Musica Mundana*: - the unheard Music of the Spheres or Celestial Harmony
> *Musica Humana*: - the Music of the Human Body, Soul & Spiritual Harmony
> *Musica Instrumentalis*: - the Music of the Instruments

Boethius (Marenbon 2003) writes on resonance:

> Music is part of us and either ennobles or degrades our behaviour. Music is related not only to speculation but to morality as well, for nothing is more consistent with human nature than to be soothed by sweet modes or disturbed by their opposites. Thus we can begin to understand the apt doctrine of Plato, which holds that the whole Universe is united by musical concord.

The harmony or concept of "the music of the spheres" goes back to Pythagoras, who theorized that music is a microcosm of the cosmos and ruled by the same mathematical laws that operate throughout the universe (Greenberg 2007, 106). The story goes that Pythagoras upon passing a blacksmith is said to have heard consonance in the different sounds of the hammer similar to performing an instant Fourier analysis (James 1995 Kung 2013). Modern physicists and musicians might say that Pythagoras had excellent hearing and somehow heard the harmonics or tones and overtones generated by the hammer blow. History records that Pythagoras went on to experiment with plucking strings of different lengths and so formally discovered the connection between vibration, frequency, and musical pitch; and that the notes or pitches sounded on musical instruments and the human voice are made up of specific harmonics or overtones characterized by musical intervals with simple mathematical ratios, as we shall see (Greenberg 2007, 40).

Shakespeare's Sonnet 8 and others are examined in this paper in the light of resonance and the harmonic series long understood by musicians, physicists, and mathematicians. This provides a new interpretation and understanding of Shakespeare the author as having periods of coming into

a profound yet natural harmony or resonance with the universal rhythm of Life and writing about his experiences in the Sonnets; and through this attunement and the creation of the plays, becoming one of the greatest writers of all time and the centre of the Canon of Western Literature (Bloom 1994, 43).

Adler, Shakespeare, and Music Therapy

Yet this human resonance is not limited to descriptions in English literature. Viennese physician and psychiatrist Alfred Adler brought a related concept into modern psychology, namely the importance of "striving to take an interest in the interests of others so as to gain a feeling of community with all of life, or in German *gemeinschaftsgefühl*." This is an expression of Adler's expansive feeling of community with others and the universe, *des Einigseins mit dem All* (oneness with the All) which, though innate, must be developed (Adler 1964; Eriksson 2017, 252; Ansbacher 1968, 134).

That there is a greater whole in the universe and that everything fits together is also part of Adler's meaning of *gemeinschaftsgefühl* (Ansbacher 1968, 131-149): "The innate feeling is actually a cosmic feeling, a reflection of the coherence of everything cosmic, which lives in us, which we cannot dismiss entirely and which gives us the ability to empathize with things which lie outside our body" (Ansbacher 1968, 134). Adler (1964, 329; Eriksson 2020) tells us that Shakespeare was one of the great literary influences that led him to the insights of Individual Psychology: "Some day soon it will be realized that the artist is the leader of mankind on the path to the absolute truth."

One of Adler's early students, Rudolph Dreikurs, who was a physician and a musician (Dreikurs 1953, 15; Eriksson 2017, 244) writes on music's ability to move us: "There seems to be something magical in the effects of music, as talk about a mysterious X factor still persists…. [T]his is a relapse into the ancient concept expressed by the Roman Boethius who assumed a mystical connection between music and the cosmos."

Similarly, in the *Music Therapy Handbook* (Wheeler 2015), the editors quote the biographer André Maurois:

> Everything that I had thought and been unable to express was sung in the wordless phrases of these symphonies. When that mighty river of sound began to flow, I let myself be carried on its waters. My soul was bathed and purified … Beethoven called me back to kindness, charity, and love (Wheeler 2015, 126).

Further, Dreikurs (1953, 13; Eriksson 2017, 244) recalls an incident where a piece of music was used to describe a person whom others present could then recognize and identify from the music. Dreikurs picks up on music's ability to resonate and communicate and writes: "Mr. … understood my musical jargon; the others did not. It is probably this non-verbal communication, inherent in music, which not only explains its emotional significance, but its influence on interpersonal relationships."

The present paper provides evidence that resonance and the harmonic series in music, mathematics, and in matter, clarifies this "mysterious X factor" and is a way to understand the harmony described in Shakespeare's Sonnet 8 and others. Superstring theory and the holographic principle of the universe provide a scientific framework for seeing the actions of resonance and harmonics in the structure of the universe and cosmos, as well as in human nature (Greene 1999; Greene 2005).

Everyday Examples of Resonance in Nature

Any system can absorb energy if it is supplied at a resonant frequency when the size of the response increases noticeably (Woolfson 2015). A small periodic force can have a large effect on some periodic motion. It's a question of timing. During an earthquake buildings oscillate. If the frequency of an oscillation is close to the natural frequency of the building, resonance may lead to severe damage. A bridge can absorb energy from wind gusts when it vibrates at its resonant frequency until it disintegrates. In an MRI (Magnetic Resonance Imaging) machine, radio frequency energy causes resonance in hydrogen protons in water. Soldiers all marching in step over a wooden bridge can lead to the bridge collapsing as it starts to move in harmony with their marching rate. Pushing a child on the swing at the right time in every cycle will cause the swing to go higher as the small push accumulates. A small push on the swing at every other cycle will also accumulate through resonance, but be in a 2:1 ratio as in a musical octave. Periodic, small gravitational forces also happen in the solar system as orbital resonance, giving rise to the Kirkwood gaps of the asteroids between the planets Mars and Jupiter. The opera singer who sings loudly enough at the right note can shatter a nearby wine glass as it resonates with the sound waves and absorbs energy. Tapping one tuning fork to vibrate will cause an identical one nearby to oscillate as it absorbs the energy in resonance.

The Experience of Resonance in Scientists and Artists

Mathematician Henri Poincaré in *The Value of Science* (2001) writes:

> The scientist does not study nature because it is useful to do so. He [she] studies it because he [she] takes pleasure in it, and he [she] takes pleasure in it because it is beautiful. If nature were not beautiful it would not be worth knowing, and life would not be worth living. I am not speaking, of course, of the beauty [that] strikes the senses, of the beauty of qualities and appearances. I am far from despising this, but it has nothing to do with science. What I mean is that more intimate beauty which comes from the harmonious order of its parts, and which a pure intelligence can grasp. (Poincaré 2001, 34)

Einstein's comment on intuition as a form of resonance can be added to this context (Isaacson 2018): "The intuitive mind is a sacred gift, and the rational mind is a faithful servant; we have created a society that honors the servant and has forgotten the gift."

Resonance in Human Creativity

David Bohm was one of the great theoretical physicists of the twentieth century. He theorized the universe as a vibrating, enfolding-unfolding order of wholeness (Bohm 1980; Bohm 2004,46). He links this perceived order of harmony to creativity in both artists and scientists:

> And some of the most creative scientists (such as Einstein and Poincaré) have indicated that in their work they are often moved profoundly, in a way that the general public tends to believe happens only to artists and other people engaged in what are regarded as "humanistic" pursuits. Long before the scientist is aware of the details of a new idea, he [she] may "feel" it stirring in him [her] in ways that are difficult or impossible to verbalize. These feelings are like very deep and sensitive probes reaching into the unknown, while the intellect ultimately makes possible a more detailed perception of what these probes have come into contact with. Here, then, is a very fundamental relationship between science and art, the latter must evidently work in a similar way, except that the whole process culminates in a sensually perceptible work of art, rather than in an abstract theoretical insight into nature's structural process. (Bohm 2004, 46)

What Bohm describes above as new ideas and creations getting ready to be formed and emerge into consciousness during the creative process may well be the meaning behind Shakespeare's term "fairest creatures" in Sonnet 1 that begins the fair youth sequence. Remembering that Shakespeare's creative genius has been ranked as number two in the known world after Leonardo da Vinci (Buzan & Keene 1994), and Shakespeare has been deemed to be the greatest writer in any language who has ever lived (Shaheen 2011), it is entirely plausible that Shakespeare would have been aware of the creative process within himself.

Shakespeare's Universality: The Plays and Sonnets

Was Shakespeare the poet and playwright exalted in periods of inspiring attunement and divine holistic inflow when the plays were written (Bucke 2011, 187)? Shakespeare has been described as touching "every shore of human experience" (Shaheen 2011) and being the nearest in incarnation to the eye of the Divine (Sir Laurence Olivier, famous for putting on Shakespeare as an actor). The bard has been described by modern scholar Harold Bloom as the literary equivalent of the scriptures and the inventor of the modern concept of personality (e.g. Falsatff and Hamlet), yet without a religious message *per se*, and not sectarian or partisan, nor pleading anybody's cause. Rather Shakespeare has been viewed as being a mirror of human nature as human nature is a mirror of the Divine (Dawson & Cockbill 1877. Of special interest is Henry Vaughan's comment that music in Shakespeare is ever the solace and companion of love, and that love in Shakespeare is the language of mysticism and attunement. Poet Laureate of the time John Dryden (1631-1700) says of Shakespeare that "he was naturally learned and that he needed not the spectacles of books to read Nature. He looked inwards and found her there."

This paper argues, like Bucke, that the Sonnets were written in between the author's periods of illumination when the author addressed his new, young, heavenly sense of self (described in the fair youth sequence of the Sonnets as "the better part of me") and told this new self that they

should remain separate. This concept is unlike Saul of Tarsus who gave up being Saul to become entirely his new cosmic self known to history as Paul (Bucke 2011, 130-142).

Some of the Shakespeare sonnets are explicitly supportive of this interpretation in agreement with the recent work of Ledger (2009). Ledger has identified the religious or quasi-religious texts of the Sonnets and names Sonnet 37 in particular as giving many clues as to how to interpret those sonnets, which have quasi-religious language or themes. Referring to the dedication in the publication of the Sonnets (Quarto edition 1609), Ledger (2009) writes:

> My interpretation of this dedication is entirely different, and I maintain that it is written by Shakespeare, or at least put there with his agreement, and that its wording is consistent with the themes of the Sonnets. In particular the phrase *onlie begetter* is an oblique reference to the fair youth of the Sonnets and to the *onlie begotten* Son of God [the Divine] of the Bible.

Ledger (2009) suggests a connection between "the fair youth and the better part of me" of the Sonnets and the Divine Christ. Saint Gertrude of Helfta in her thirteenth century community is reported to have had visions of him as a happy baby and a handsome young man, so Ledger's interpretation here is not without precedent (Bynum 2012).

Howard Bloom sees the influence of the bard as the literary equivalent of the scriptures (Bloom 1998). Naseen Shaheen has examined the numerous biblical references in Shakespeare's plays along with Shakespeare's sources. *Hamlet* and *Othello* are reported to have fifty to sixty biblical references, and Shakespeare often quotes the Psalms (Shaheen 2011). According to Bloom and Shaheen, no study of Shakespeare's plays is complete that ignores the poet's use of scripture. And yet, notwithstanding these biblical references, Shakespeare is not particularly religious and is acknowledged as not having a religious message (Shaheen 2011; Dawson & Cockbill 1877).

Intermittent Mystical Experience and the Sonnets

Several of the Sonnets reference the intermittent nature of mystical experience in images of light and dark or union and separation.

Shakespeare Sonnet 33

> Full many a glorious morning have I seen
> Flatter the mountain-tops with sovereign eye,
> Kissing with golden face the meadows green,
> Gilding pale streams with heavenly alchemy;
> Anon permit the basest clouds to ride
> With ugly rack on his celestial face,
> And from the forlorn world his visage hide,
> Stealing unseen to west with this disgrace:
> Even so my sun one early morn did shine
> With all triumphant splendor on my brow;
> But out, alack! he was but one hour mine;

The region cloud hath mask'd him from me now.
Yet him for this my love no whit disdaineth;
Suns of the world may stain when heaven's sun staineth.

Sonnet 33 refers to this Divine resonance and inflow as "heavenly alchemy" with "[S]overeign [E]ye": "Even so my sun one early morn did shine with all triumphant splendor on my brow." However, this new sun comes and goes and is intermittent. Shakespeare tells us it lasted one hour when it gave way to his normal "cloudy self" of finite vision.

This imagery is similar to Walt Whitman's mystical experience in *Leaves of Grass* (1876) when Whitman writes of his poet's persona: "As in a swoon, one instant,/ Another sun ineffable, full dazzles me,/ And all the orbs I knew, with brighter unknown orbs,/ One instant of the future land--/ Heaven's land" (Bucke 266; Taylor 2017). A similar reference can be made to Henry Vaughan, the Welsh metaphysical poet, who writes: "I saw Eternity the other night,/ Like a great ring of pure and endless light,/ All calm, as it was bright;/ And round beneath it, Time in hours, days, years,/ Driven by the spheres/ Like a vast shadow moved; in which the world/ And all her train were hurl'd" ("The World" 1650). And likewise to William Blake's poem "Eternity": "He who binds himself to a joy,/ Does the winged life destroy/ He who kisses the joy as it flies/ Lives in eternity's sunrise."

Jacob Böhme, German mystic, echoes the intermittent nature of this new sun coming: "The sun shone on me a good while but not constantly, for the sun hid itself, and then I knew not nor well understood my own writings." Böhme writes that the human heart and the divine heart do not beat in time together and that that is the cause of all humankind's challenges (Barker 1920, 25; Bucke 2011, 222). The superposition of two waves that are out of phase with each other illustrated below (Fig. 1) shows that this can, in principle, account for the intermittent nature of these experienced resonances as Böhme states.

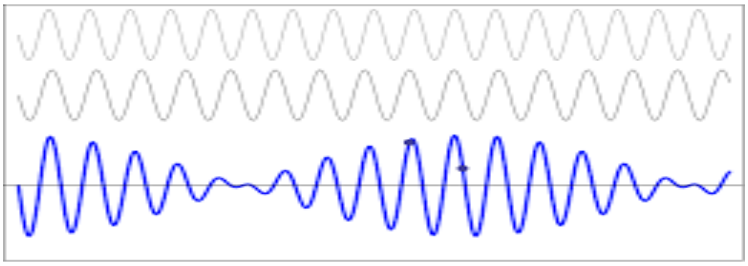

Figure 1. The superposition of two waves that are not in phase.

William Wordsworth writes of his own transcendent experience in "Tintern Abbey" as akin to "the light of setting suns" (Wordsworth 2008; Bucke 2011, 345):

And I have felt
A presence that disturbs me with the joy
Of elevated thought; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,

And the round ocean and the living air,
And the blue sky and in the mind of man;
A motion and a spirit, that impels
All thinking things, all objects of all thought,
And rolls through all things.

And again in “Tintern Abbey” Wordsworth reflects on the power of harmony and resonance that allows us to see “into the life of things”:

To them I may have owed another gift,
Of aspect more sublime; that blessed mood,
In which the burden of the mystery,
In which the heavy and the weary weight
Of all this unintelligible world,
Is lightened: that serene and blessed mood,
In which the affections gently lead us on,
Until, the breath of this corporeal frame
And even the motion of our human blood
Almost suspended, we are laid asleep
In body, and become a living soul:
While with an eye made quiet by the power
Of harmony, and the deep power of joy,
We see into the life of things.

Regardless, this experience is transient as suggested in Shakespeare’s Sonnet 36 which is commonly interpreted as addressed to the poet’s beloved; however, the notion of divided selves is evident:

Shakespeare Sonnet 36

Let me confess that we two must be twain,
Although our undivided loves are one:
So shall those blots that do with me remain
Without thy help by me be borne alone.
In our two loves there is but one respect,
Though in our lives a separable spite,
Which though it alter not love's sole effect,
Yet doth it steal sweet hours from love's delight.
I may not evermore acknowledge thee,
Lest my bewailed guilt should do thee shame
Nor thou with public kindness honour me,
Unless thou take that honour from thy name:
But do not so; I love thee in such sort
As, thou being mine, mine is thy good report.

Sonnet 36 states unequivocally that the two of them, the outer imperfect and inner perfect self, must stay separate and not become one "although [their] undivided loves are one." Similarly, in Sonnet 39, the poet's outer persona sees love as the force that assuages "the torment" of separation:

Shakespeare Sonnet 39

> O! how thy worth with manners may I sing,
> When thou art all the better part of me?
> What can mine own praise to mine own self bring?
> And what is't but mine own when I praise thee?
> Even for this, let us divided live,
> And our dear love lose name of single one,
> That by this separation I may give
> That due to thee which thou deserv'st alone.
> O absence! what a torment wouldst thou prove,
> Were it not thy sour leisure gave sweet leave,
> To entertain the time with thoughts of love,
> Which time and thoughts so sweetly doth deceive,
> And that thou teachest how to make one twain,
> By praising him here who doth hence remain.

Sonnet 39 praises his new Self as "the better part" of himself, and again says "let us divided live."

Harmonic Resonance and Shakespeare's Sonnet 8

Shakespeare's Sonnet 8 appears to refer poetically to the harmonic or overtone series long understood by musicians, mathematicians, and physicists, and also that we can use music to suit our purpose. Single notes played on a musical instrument do not just vibrate at one frequency, the fundamental, but vibrate in a complex way made up of a family of overtones or harmonics and of different amplitudes that characterize the timbre of the particular instrument (Kung 2013). These are standing waves and are shown below in Fig. 2 for various musical instruments and the human voice, and described in this context by Eriksson (2017, 257-259). In the human voice, the higher frequencies from the vocal tract are superimposed on the major variations in air pressure coming from the lungs and the vocal cords.

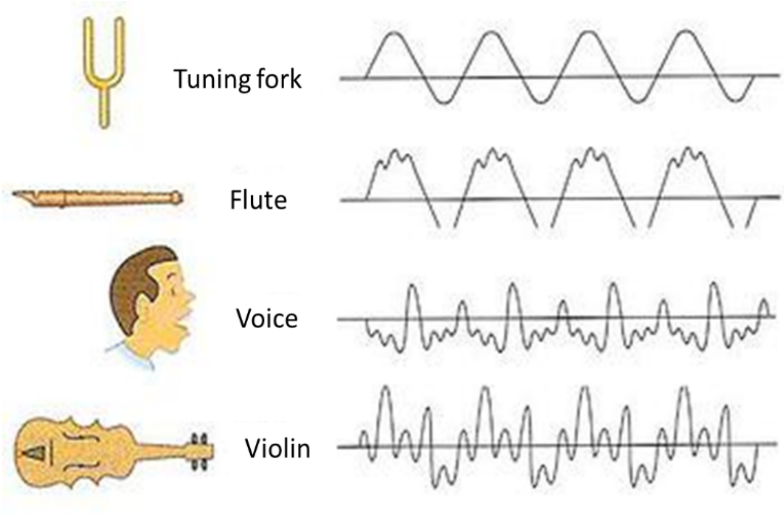

Figure 2. Standing wave patterns on various musical instruments and the human voice are compared here.

Shakespeare Sonnet 8

> Music to hear, why hear'st thou music sadly?
> Sweets with sweets war not, joy delights in joy.
> Why lovest thou that which thou receivest not gladly,
> Or else receivest with pleasure thine annoy?
> If the true concord of well-tuned sounds,
> By unions married, do offend thine ear,
> They do but sweetly chide thee, who confounds
> In singleness the parts that thou shouldst bear.
> Mark how one string, sweet husband to another,
> Strikes each in each by mutual ordering,
> Resembling sire and child and happy mother
> Who all in one, one pleasing note do sing:
> Whose speechless song, being many, seeming one,
> Sings this to thee: “thou single wilt prove none.”

Shakespeare’s Sonnet 8 speaks of “how one string, sweet husband to another,/ Strikes each in each by mutual ordering,/ Resembling sire and child and happy mother/ Who all in one, one pleasing note do sing.” These metaphors likely refer to the family of harmonics as shown in Figs. 3 and 4.

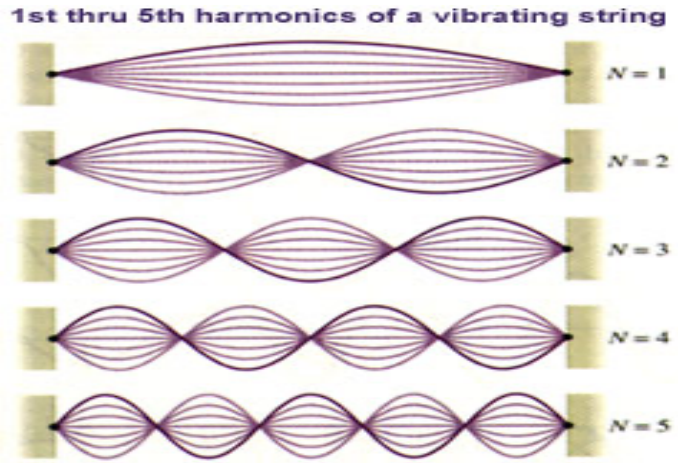

Figure 3. This image shows how a family of harmonics can fit on a given vibrating string or column of air along with the fundamental.

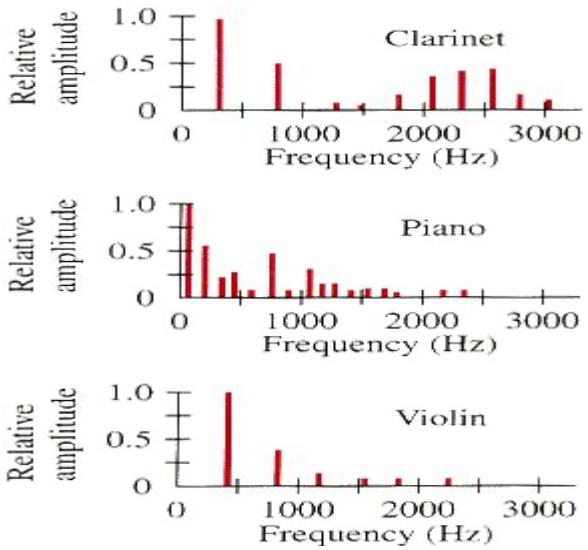

Figure 4. Differences in the sizes of the harmonics characterize each musical instrument and its timbre (frequency spectrum of a sound) and are predicted by the mathematics for the particular instrument.

The mathematical ratios of the musical intervals involved in a family of harmonics or overtones as investigated by Pythagoras are shown below in Fig. 5 (Greenberg 2007; Giordano 2016; Fletcher& Rossing 1998; Eriksson 2017, 257).

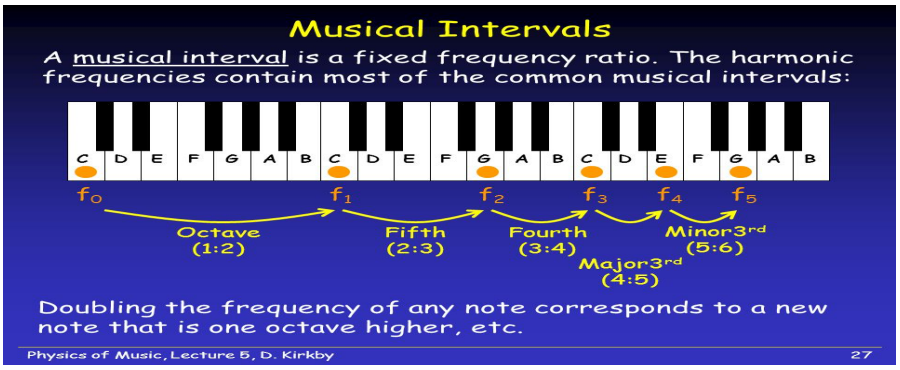

Figure 5. Mathematical ratios between the harmonics on a modern piano are shown here.

"Thou single wilt prove none," the last line in Sonnet 8, is unlikely to refer to being single and unmarried. Considering Shakespeare's profound knowledge, it is more likely to be that we are being advised to cultivate an interest in the interests of others, as Adler has recommended for good mental health and for developing a feeling of community in life (*gemeinschaftsgefühl)*, as explained here (Ansbacher1968), so that we resonate with others and come into increasing harmony with life itself, like that of a family of harmonics or overtones as occurs in musical instruments and the human voice. We then will be much richer being like a family in tune with the All, or in musical terms, like a symphony of overtones in a single note as explained here (Eriksson 2017, 251). All of this is clearly a modern and scientific elaboration of Boethius's *Musica Humana* – the harmony and music of the human body, soul, and spiritual harmony.

The Wave Nature of Matter

Modern physics describes the wave nature of orbiting electrons in stable atoms as corresponding to vibrating piano strings and their standing waves. As shown in Fig. 6, only an integral number of de Broglie waves can fit into the length of a given orbit and so only specific resonant frequencies and energies are possible for atoms (Gubser 2010; Schumacher 2009; Eriksson 2017, 258). Accordingly, there is a natural resonance and harmony in stable atoms and molecules, and this principle extends to matter and the psychology of our everyday world with examples already listed in this paper (Eriksson 2017).

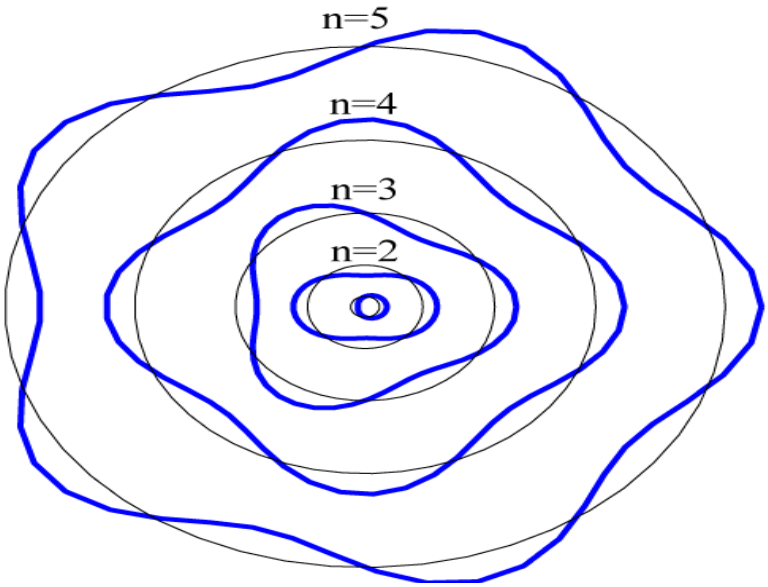

Figure 6. This image shows the standing wave nature of orbiting electrons in stable atoms.

Modern Physics – The Holographic Universe and Superstring Theory

As illustrated in Fig. 7, in a holographic photograph of an object, the whole image of the object is distributed over the whole film. When light shines on any region of the film the full object is seen as a projection in space (Bohm 1980; Afshordi, Mann, Pourhasan 2015).

Figure 7. A two-dimensional illustration of a hologram in 3-D is shown here.

Leonardo da Vinci recognized this concept of the universe five centuries before holography was invented (Gelb 2004, 96): “Who would believe that so small a space could contain the images of the whole universe.”

According to the holographic theory of the universe, our daily life in three dimensions and time is a projection of processes occurring on a distant 2-D surface (Fig. 8). This corresponds with the mystical technique of looking within away from the projection and trying to understand oneself

and life (Greene 2005; Greene 1999). This holographic theory is also consistent with Plotinus's comment that this way "conducts to that height above the actual and the particular, where we stand in the immediate presence of the In-finite, who shines out as from the deeps of the Soul."

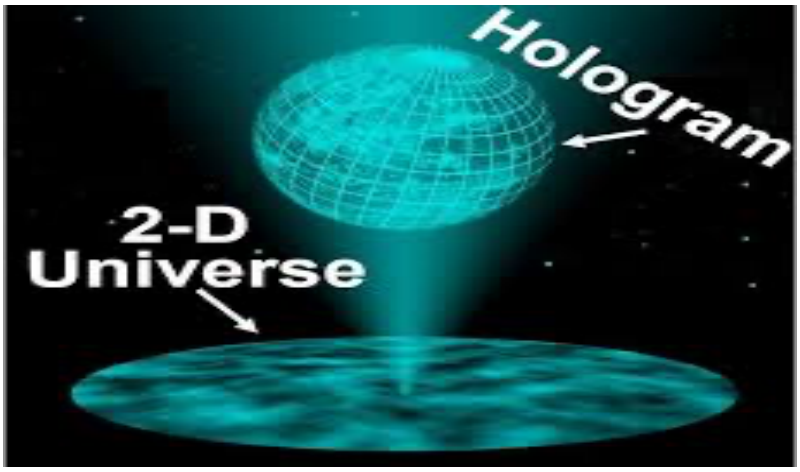

Figure 8. This image dispays an illustration of the actual 2-D Plane and the 3-D space-time universe.

Modern physics' superstring theory provides a basis for understanding this feeling of resonance and harmony and the coherence of everything cosmic by describing the existence of an enormous number of extremely stiff, extremely small, curled up, ultra high-energy, vibrating "strings." In essence, these vibrating strings or elementary particles are like ultra-ultra-small musical instruments playing their notes and harmonics in a "cosmic [energy] symphony" (Greene 1999) that is creative, having correspondences with the structural notes of atoms and molecules in matter. All strings, however, are identical in that differences between elementary particles arise from their one string vibrating in a different vibrational pattern as Greene (1999, 146) writes: "What appear to be different elementary particles are actually different 'notes' on a fundamental string. The universe being composed of an enormous number of these vibrating strings is akin to a cosmic symphony."

Conclusion

Buzan's Book of Genius and How to Release Your Own (Buzan & Keene 1994) ranks the genius of Shakespeare as number two in the known history of the world after Leonardo da Vinci. Originality, versatility, dominance in field, universality of vision, and strength and energy were used as the basis of Buzan and Keene's rankings. In *The Lives of the Artists,* Georgio Vasari, who was an architect and a pupil of Michelangelo, wrote of Leonardo da Vinci (Vasari 1991, 7): "Heaven sometimes sends us beings who represent not humanity alone but divinity itself, so that taking them as our models and imitating them, our minds and the best of our intelligence may approach the highest celestial spheres." The same could be said of William Shakespeare. But imitating somebody else's genius in any objective way is clearly not the meaning of Vasari's comment.

Marcus Aurelius, the Roman emperor and Stoic philosopher wrote: "He who lives in harmony with him/herself, lives in harmony with the universe." Self, here, meaning one's Inner or Cosmic Self. Further, Plotinus, the renowned Neo-Platonist of the third century CE wrote: "The world is

knowable, harmonious and good**;** the Divine is not external to anyone, but is present with all things, though they are ignorant that It is so."

The evidence suggests that individual attunement and resonance with the In-finite is *natural* and consistent with the principles and laws of Nature and the physics of waves and harmonics as illustrated here in music and in matter. That Shakespeare's plays were the result of such a resonance is understandable since it would have put him into harmony with those minds already in communion with the In-finite or Divine. It is thus not surprising that he should be considered to be the greatest writer in any language who ever lived. Shaheen (2011) puts it well: **"**Shakespeare touches every shore of human experience**."** It is thus also possible for each of us to follow his example, "look inwards," and attune with the In-finite.

Conflict of Interest

The author declares no conflict of interest.

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