

## Chapter 3

# Philosophical Thoughts and Thinking Aloud Allowed

**L. Dennis**

*Director, The Mereon Legacy, CIC, Herefordshire, United Kingdom*

**Abstract:** This chapter provides glimpses of the historical, cultural and scientific elements that serve as the philosophical and scientific foundation for exploring and interpreting the Mereon Matrix, in particular the Mereon Trefoil. Numbers, symbols and forms found in natural systems were investigated relative to how they have been employed throughout history to communicate or encapsulate knowledge, helping to form or dismantle social systems. This review ranges from Galilei to Hawkins, linking Euler to Fibonacci and  $\Phi$ . It reveals overlaps in philosophy and form, connecting astrology to cymatics and linking a 70,000-year-old stone carved in geometry to the architectural rule of Sullivan's Law. The Mereon Matrix offers a new perspective on completeness and sustainability, and therefore, a call is made for transdisciplinary investigations to improve how humans use the resources that our universe provides and how we must expand our ability to preserve them.

**Keywords:** Archetypes; Mereon; Mereon Trefoil; natural form; numbers; spatial-temporal nexus; Sullivan's Law; Time

### 3.1 Self-Ordered and Self-Organising Systems

Topologically our focus is the trefoil knot, the simplest form of mathematical connection that evolves to become the Mereon Trefoil.

Mathematically, the forms and knots we speak of exist only in a realm of ideals; however, the fundamental forms of the Platonic and Kepler Solids are found in nature. Our investigation began with the clearly articulated agreement that we would permit a free-flow association of patterns and patterning to emerge (Figure 3.1). Our intent was to remain open minded, using critical thinking without jumping to criticise or conclude. In this, we realised that with respect and knowledge in the domains we encountered that profound discoveries might be made.

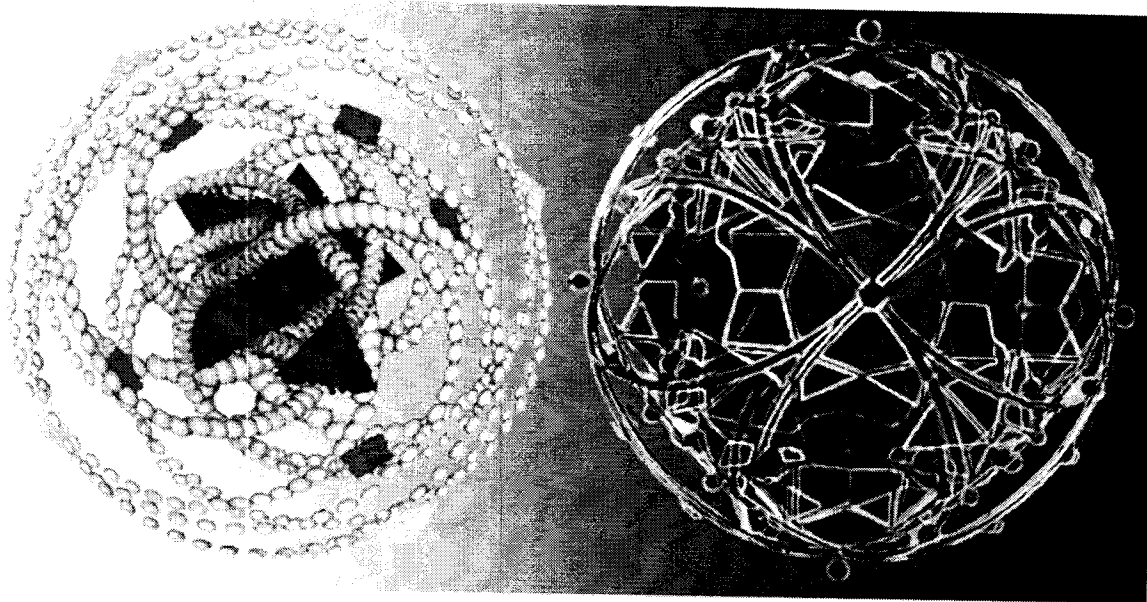


Figure 3.1. Left: Five Mereon Trefoils; and right, an artistic perspective of the Context, Core and Mereon Trefoil.

The hypotheses we share regarding our current understanding about the Mereon Matrix are neither to be mistaken as static nor are they to be assumed as solid facts carved in stone. Our statements are cognitive artefacts and like sounds emerging as a form, thoughts lead to ideas that are then able to be 'bookmarked' for what is proving to be a life-long investigation. Like all things, what is currently understood is guaranteed to evolve.

Mathematics is a universal language. Its structures are long lasting and ancient ideas are still being investigated and created as we speak! Science uses forms, and forms that are found in science become or lead to new mathematics. One hopes that the ultimate intention of such

investigations is to improve how we use the resources that our universe provides. Only with clear intent can we expand our ability to preserve them.

In working to understand the energetic Matrix known as Mereon, we have endeavoured to state 'how' it works without projecting an assumption regarding 'why' it works. We state as simply as possible what it does and the way it does it, and following this logic we dare to imagine, ask questions and then explore our ever-evolving 'answering'.

Inclusive of complex mathematics, geometry and topology, a coherent logic and a simple, unitive knot is found in the Mereon Trefoil. This Pattern links every element of the matrix modelled here. The symmetrical patterning of this asymmetrical and spherical structure includes all fundamental forms and an untold number of signs and symbols; all are directly related to ratios and numbers. While the Mereon Matrix conceptually 'exists' in the mathematical realm, we will illustrate where the discrete elements, forms, planes, edges, points and symbols appear as real. With a combination of ancient technologies, tenacious human will, conscious cooperation, and the tools of modern technology, we have made the Mereon Matrix 'visible'.

### ***3.1.1 Intelligent Imaging***

We humans have an astonishing ability to envision and articulate our imaginings about our experiences, dreams and intellectual hunches. Even more incredible is that what we can see in our minds is often beyond what technology is able to show us. One example is the mystery regarding what came before our universe; this remains an enigmatic question that intrigues most and taunts many. Why, what and how the cosmic sparkler Sir Fred Hoyle christened 'the Big Bang' was ignited is a subject that ignites inspiration and fuels theories that can become the quest of a lifetime.

In a similar manner, the Mereon Matrix ignited our individual and collective imaginations. In the face of the wonders and mysteries of the universe, from images of our sun to double spiral galaxies and star nurseries; to the riddles and pain of personal, interpersonal and social chaos; the unity we find in this dynamic structure compels us to re-ask

many old questions in our search for wisdom and the renewal of understanding. As an information model, the Mereon Matrix provides a logic driven cognitive technology that offers insights into every possible concept of 'beginning'. What is significant is the way it fosters diverse perspectives and gives rise to ideas that are logical and meaningful. This Matrix demonstrates that unitive thoughts and actions can quickly replace polarised, oppositional and paradoxical positions.

The system's architecture, the Context and Core, and the Mereon Trefoil reveal new ways to reconsider discrete forms while addressing the necessity of forming a unitive, simple and complex, connection. Moreover, the process requires that we retain the knowledge learned from previous conclusions and to use this information when we initiate new explorations. The Matrix explicitly demonstrates how to navigate the flow and transit new territory. It becomes clear that retaining a sense of the familiar is critical to understanding that simple beginnings emerge from complex endings. Such mental retooling has significant implications for psychological and social sciences and offers insights into our behaviours allowing them to be understood in the same way that the Hubble telescope lets us to look back across time and space.

The Mereon Matrix provides a methodology that allows us to keep an accurate record of 'what was' and retain information from multiple perspectives. Humanity has a deep well of experience that has fostered an understanding about why doing so is critical. While our distant ancestors may be able to design and build technology that exceeds Hubble, chances are they will not be able to see exactly what we see today because it will have come to its end or they will have moved too far away. The Mereon Matrix provides a logical and verifiable blueprint for re-evaluating connections and understanding relationships over time. It generates new ways to improve our lives, and with access to this model, we have dared to stretch our minds and use it as a tool to re-imagine how our universe might work.

By introducing the forms, dynamics, First Principles and applications of the Mereon Matrix, we seek to highlight the manner in which highly functional, self-ordered and self-organising systems perform. The model illustrates our definitions, concepts and postulates, supporting our assertion that the Mereon Matrix is a candidate for an integrated model

of existence. In this it is a template of a sustainable system and is seen to be inclusive of sound, light, time and matter. In helping us comprehend what matters in the moment from the perspective of eternity and the infinity of space, the Mereon Matrix has the power to lead us to a new understanding about the significance of our actions.

We investigated numbers, symbols and forms found in natural systems and how they have been employed throughout history to communicate or encapsulate knowledge as well as how they have informed or dismantled social systems. We will also address the architectural specifics of the Mereon Matrix and demonstrate that unique geospherical structures relate to sequentially arising forms that each informs a fundamental function in any type of system. Furthermore, in elaborating this structural framework, it is clarified that the unity of forms generates a singular connective process that governs the system and its participation with its environment.

### **3.1.2 *Reversing Sullivan's Law***

Within the Mereon Matrix, the forms determine the functions – oppositely to Sullivan's Law [Sullivan, 1896] that asserts that 'form forever follows function'. A description is provided for the relationship between forms and specific mechanisms; these will be demonstrated to support all systemic elements and allow it to simultaneously operate, interact and interoperate. In this cooperative process the Matrix assists in understanding the manner in which an organism or an organisation transforms its resources. Human competence and this template allow for sequential, yet non-hierarchical self-organisation that generates the cooperative characteristics critical to sustainability.

In Chapters 5, 6, 7 and 8, we present the geospherical forms and dynamics of the Mereon Matrix. Chapter 9 is a foundation for understanding the construction and topological structure of the Mereon Trefoil. Chapter 10 provides a detailed examination of the manner in which this knot connects all forms; it governs flow and growth, and reveals that the constant, yet constantly changing topology of this knot is maintained in Time provided that each function ensures its ability to continue. By completing each of the seven functions in order, the resources are able to

present the necessary emergent property that is critical for the endurance of the organisation.

Following the constructs of the Matrix, introductory links are made to multiple domains within science. Chapter 4 introduces the education application; Chapter 12 introduces a relationship between the process and astrobiology, the origin of matter; and Chapter 13 presents a comprehensive overview of how it has been used to model molecular human genetics. Throughout there are multiple examples of its relevance to social science and life in general.

### **3.1.3 *Understanding from Inside Out***

Mathematician Hermann Henkel stated what most know from the social domain, *“In most sciences, one generation tears down what another has built, and what one has established, another undoes.”* [University of St Andrews, 1993]. What the Mereon Matrix does is what he applauded in completing his thought, *“In mathematics alone each generation adds a new story to the old structure.”*

The Mereon Matrix provides a new means for comprehending the fundamental structure of a system, it does so from inside to out. While the process may feel equally backwards and familiar, contrary to the operative dynamics in many social situations, it is in sync with the functions of natural systems. The Mereon Matrix is a persuasive template for modelling the inner workings of an organisation and allows the team to be work as individuals and as a cooperative group. When a system fails the cause is understandable; with the responsibility clear, there is no need for a ‘Humpty Dumpty’ scenario and changes can be made without the chaos of shame and blame. By providing a tool for a robust analytic investigation of any existing system, the Mereon Matrix is a template for rebuilding or building new organisations and laying a solid foundation with the cornerstones set in place. As such it leads to sustainable growth, energetic flow that is quantitatively and qualitatively measurable.

Within the Mereon Matrix is a unitive set of systemic principles. Its structured wholeness and bidirectional nature are inclusive and their properties and relationships are realised internally, environmentally and across the system’s boundary. The modelling of the Mereon Matrix has

permitted us to take significant strides towards realising Bertalanffy's vision of a universal model. However, realising that our understanding of this knowledge will continue to evolve, we continually use the Socratic Paradox as a reminder that, "*We know nothing at all.*" Therefore, while we are confident in the mathematics and modelling of the Mereon Matrix, further clarifications and new understanding will certainly be forthcoming over time.

### **3.2 Rethinking Circularity**

We start with the circle and the thought expressed by Edwin Markham in his poem, "Outwitted". He wrote,

"He drew a circle that shut me out--Heretic, rebel, a thing to flout. But  
love and I had the wit to win: We drew a circle and took him in!"

[Markham, 1915 (p. 1)].

The circle is the simplest place to begin to contemplate wholeness; what we currently understand about perfection and imperfection is equally real and symbolic. An imperfect ring is something that can readily be imagined as representative of a whole. Most people rely on a compass to draw a near perfect circle. What is significant about this is that the simple act of using this tool places a single pinpoint at what will become the centre of the circle. This is a visual example of the type of inflation we are speaking of with regard to the Mereon Matrix, for as a system comes into manifestation its centre equally extend outwards in all directions. When all points are in place, circles upon circles arise to present its geospherical domain of spheres within spheres, its vibratory patterning, Time, the emergent phenomenon as the system begins to move.

#### **3.2.1 *Originals and Archetypes, Symbols and Substance***

The unity in the Mereon Matrix is 'original' and represents a primordial impression of a creation principle. At the same time, it presents numerous archetypal characteristics in the complexity of its fundamental structures and simple dynamics. These qualities identify it as an

exemplar that can be used to consider the nature and meaning of existence. Many symbols have become so powerful that when we see them an instant association forms in our mind. Similarly, many brands become iconic having been intentionally embedded in our consciousness through familial patterning, cultural traditions, theological beliefs and targeted marketing and advertising. Icons, signs and symbols can be imagined as emotional or cognitive ‘bookmarks’ that have led to habits, some of which need to be broken.

### **3.3 Harmony: Linking Numbers and Natural Forms**

What we present in this book connects seemingly diverse disciplines: scientific fields of mathematics, biology, geology; coherent with music, mythology, and cultural patterns. Discrete symbols are embraced by and embodied within a single system, namely, the Mereon Matrix.

In bonding form and flow with numbers and letters, the Matrix allows us to consider that each of us and everything is a whole and integral part of a grander whole. We explore this further in Chapters 11 – 15.

#### **3.3.1 *Unity and Diversity***

Hieroglyphs, pictographs, runes, letters and numbers are symbols that held meaning for the cultures that created them. From childhood, we learn basic representations of symbols such as the alphabet and are schooled in their common meaning; in many instances, their significance has transcended the culture of origin. Music, on the other hand, is a complex interplay of sounds represented by the symbols of musical notation. A particular piece of music can be retained as symbolic impressions indelibly etched in our psyche. Music has an ability to unlock the spirit and release memories; it can call forward a past experience richly saturated with meaning that we associated with a specific melody or the lyrics from a song. There appears to be a spatial connection as well given that many are able to remember precisely where and who they were with when they first heard a melody. The significance of these moments is all but impossible to delete.

It has long been hypothesised that sound is a connective medium and has the potential to reveal energetic and structural aspects of the Mereon Matrix. The introduction of cymatic technology in Appendix B where sound is made visible on a water membrane has opened new doors to understanding the dynamic structure of the Matrix. What you will see in Chapter 11 reveals something about energetic structures that are normally invisible; the stethoscopic sound of the human heart, and the resonant patterning that appears in a human brain when an EEG, an electroencephalogram, is viewed using the latest in cymatic technology. Knowing that sound, symbol, touch and texture have untapped powers we are now considering how the unitive template of the Mereon Matrix might support us in determining the best use of human and natural resources.

The motion in this mathematical Matrix reveals a complex dynamics that unites diverse forms and flow and provides an understanding of the essential nature of a whole system be it natural or social. As the seasons unfold, harmonics and the passage of time are readily recognisable in an amazing array of patterns. The exceptions are locales where there is little to indicate significant change. Not surprisingly such environments inevitably have a special relationship to time. In applying the Mereon Matrix to personal and social dynamics, it is understood that we often experience harmonic revelatory moments that seem to unfold.

Within the Mereon Matrix, all numbers and classifications of geometric solids are inclusive and important in terms of chemical, biological and cultural structures. Our primary focus is upon the unique forms of the Matrix itself and its relationship to the five regular Platonic solids and the two Kepler Solids, the Rhombic Dodecahedron and the Rhombic Triacontahedron: all other forms, the Archimedean and Catalan solids for example, are subsets of these two groups.

As you consider the Mereon Matrix, remember that the images are 'still shots' captured from a dynamic process. For this reason, animations are provided as often as possible in the electronic version. In the next few pages we consider how numbers, forms and symbols have been archived throughout history; how these appear in culture and Nature.

### 3.3.2 *Integral, Integrative and Integers*

The Mereon Matrix is an integrative process and is descriptive of an inclusive, stable, judicious system. As a scientific investigation, it is a foray into what we currently understand and quickly becomes an adventure into the Unknown. Such an investigation can lead to personal journeys that when clearly presented and understood by others can become social endeavours that transform information into knowledge. In this, humanity can find new ways to mend personal, organisational and environmental damage. This Matrix reminds us that the planet is not ours and reveals a logical methodology to mend and preserve Nature and all elements of society not only for ourselves but for future generations.

The intent in presenting the Matrix is to take a simple, straightforward logical approach. We begin by briefly contemplating the ten integers (0–9) used to make every number: as ancient texts and philosophers agree that, “*All things are arranged by measure, number and weight*”<sup>a</sup>. This is the first step in identifying how this Matrix includes every form necessary to define a sustainable living organism and describe a healthy, life-like organisation.

#### 3.3.2.1 *Nine*

Mathematically, a  $9 \times 9$  grid is significant in the context of the Mereon Matrix and defines the Face Centered Cubic lattice that has a unique relationship to the Core: described in Chapter 8. So it is that we wonder how the Magic Square of  $9 \times 9$  might also be significant given that its constant, ‘369’ also appears in accounting for structure in the Mereon Trefoil. Mayan temples and Chinese pagodas have nine layers or steps. Religious councils are often comprised of nine members, and Egyptian mythology says that the pharaohs emerge into the world from that space between the thighs of the ‘Divine Nine’. In Christianity, there are nine orders of angels and demons: nine above with singing angels and nine below where the demons scream.

---

<sup>a)</sup> References from the Bible and other texts.

### 3.3.2.2 *Eight*

Chemists observe daily the subatomic world's kinship with the patterning present in Islamic art, ancient wisdom traditions and architecture. Eight is also significant in every culture. A few examples are the chessboard, the I Ching, the eight-fold Buddhist Way and the eight pulses of the heart of the Great Mother Goddess at the root of every culture's creation story. When turned ninety degrees the number eight becomes the symbol for infinity. Software programmers work with bytes made of eight binary bits. Musicians use octaves of eight notes. 'Do, Re, Me, Fa, So, La, Ti' and back to Do, thereby lifting the scale to the next higher 'Do'.

### 3.3.2.3 *Seven*

In biological systems, humans have seven endocrine glands, and almost all mammals have seven cervical vertebrae [Galis, 1999]. Heptameric structures naturally occur in Nature at the microscopic level and are usually organised as cyclical oligomeric protein structures [De and Olson, 2011; Tanaka *et al.*, 2011; Feld *et al.*, 2012]. Seven is the minimum number of colours to map a torus: it was a sacred number to the ancient Greeks because they could see seven planets; so too, their goddess of wisdom, Athena, is associated with the heptagon. The seven Chakras, invisible energy centres in the body that are well known to Vedic cultures; Sanskrit for 'wheel or turning', they are symbolized by a helical rainbow. In Norse mythology, Odin built a rainbow bridge to Valhalla. While humans visually perceive only the primary colours, our brains combine them to produce yellow, cyan, magenta and white and the seven colours comprise the visible light spectrum: red, orange, yellow, green, blue, indigo and violet.

### 3.3.2.4 *Six*

Six is the minimum number of colours map a Möbius band or a Klein bottle. Six is unique in that it is both the sum and the product of the same three distinct positive integers and the only square-free perfect

number. Six is wrapped up in the hexagon and can be imagined as doubled triangles with all points connected. It will be here that we find the first linear suggestion of the Mereon Trefoil in connection with geometry.

The hexagon is found at the centre of many spiritual traditions. Unfolded, a cube becomes a cross. At the heart of Mecca sits the Kaaba, the ancient sacred stone building towards which Muslims pray five times a day. Kaaba literally translates as 'cube'. It is a socio-cultural-political paradox that the Kaaba and the Kabbalistic Tree of Life are identical in form.

### 3.3.2.5 *Five*

While most people would say they have five senses, humans actually have ten senses; five are experienced internally and five are detected externally. The pentagram and pentagon are among the most enduring symbols and are significant in cultures the world over. A five-pointed star was found etched on the walls of a Neolithic cave; it is understood to have been part of spiritual practices. In ancient Babylonia, the pentagram was the symbol of the Goddess Ishtar: the personification of Venus and the goddess of fertility, war, love and sex. Inanna, the most prominent female deity in ancient Mesopotamia was Ishtar's Sumerian counterpart and was queen of the underworld.

### 3.3.2.6 *Four*

The number four defines scientific simplicity as indicated by protons, neutrons, electrons and electron neutrinos. These atomic components provide a modern corollary to the ancient sciences where four described the fundamental elements of fire, earth, water and air.

While four lines form the planar foundations of a Cube and the centre of an Octahedron, the Tetrahedron is the first 3D form with an inside and outside with four-faces and four-vertices, and represented the fire element to the ancients.

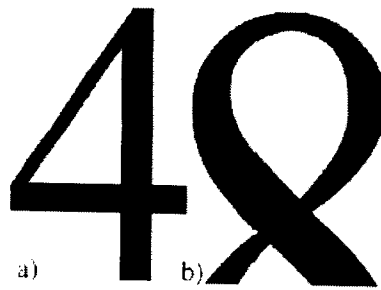


Figure 3.2. The Number 4.

In the Middle Ages the number four was represented in curves as illustrated in Figure 3.2b; literally, half of eight. During this period advanced education focused on the Classics: the Seven Liberal Arts. The educational curriculum began with a three-fold path known as the Trivium that included grammar, rhetoric and logic. The Trivium laid the foundation for the Quadrivium, the ‘path of four’, where learning focused on discerning and understanding the language of Nature through the study of Pythagorean mathematics. Four beats to the bar is common in classical music, there are four movements in a symphony and many stringed musical instruments have four strings. Civilisation has progressed through four Ages – the Gold, Silver, Bronze and Iron.

### 3.3.2.7 *Three*

Three creates harmony and stability. Three points form the base of a triangle and create the foundation necessary for it to rise from 2D to 3D. The Borromean rings illustrated to the right in Figure 3.3 are made up of three linked topological circles; the removal of one ring causes it all to fall apart.

In 2004, chemists at the University of California at Los Angeles created a special polymer network of hexagonal structures and were surprised to find that the molecules’ topology was arranged as interlocked Borromean rings [Chichak *et al.*, 2004].

This ring formation is found in Buddhist art dating from the 2<sup>nd</sup> Century and was carved in the 7<sup>th</sup> Century in the form of the Valknut, one of the four Stora Hammars stones, located in Stora Hammars, Gotland, Sweden. The triangle and all forms symbolic of the number

three are used to represent the religious trinity and identify civilisations three main religions: Judaism, Christianity and Islam. The fleur-de-lis, recognised by its three leaves, is a well-known symbol representing the number three.

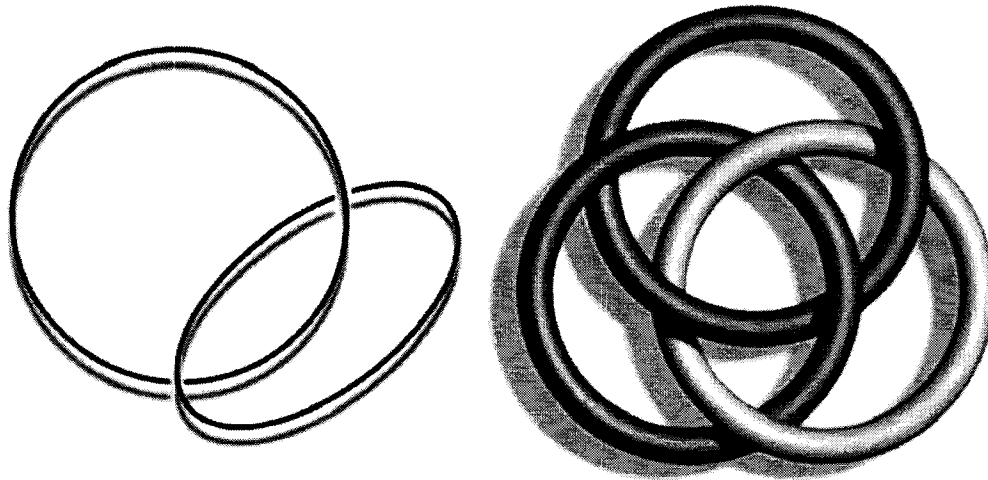


Figure 3.3. The Borromean rings.

### 3.3.2.8 *Two*

A dyad is used in many domains. Examples of the number two abound and include complex processes such as a pair of sister chromatids occurring in prophase I of meiosis, or simplistically, a pregnant mother and her foetus. In education, a dyad refers to linking two individuals to facilitate goal-directed learning. Engineers are familiar with the dyad in kinematics: two possible assembly modes in a planar mechanism.

The concept of the dyad is found in multilinear algebra, which is an expression of the rules for Matrix algebra. A dyad tensor is a second rank tensor formed by juxtaposing pairs of vectors.

We illustrate a simple seemingly asymmetric form of the dyad in the left image in Figure 3.3, as it will later prove significant. We say seeming as it is a matter of perspective. Most will recognize two interlocked circles as the symbol for MasterCard, while few will make the connection that it is also the Vesica Piscis, an iconic symbol for the sacred feminine that is found the world over. It also designates the union of harmony and unity. Multiplying measurements by two, doubling, is found in human physiology. Doubling the circumference of the base of

your thumb is approximately the circumference of your wrist. Double this number and you have an approximation of your neck measurement. Double this and you will be close to the circumference of your waist. This might be helpful in understanding why when a ring gets tight, a watchband needs to be opened a notch and your shirts are probably a bit snug around the collar, and your jeans may be a bit too tight.

### 3.3.2.9 *One*

The number one is often referred to as the ‘Monad’: a term arising out of two Greek words, *monas*, meaning ‘unit’, and *monos* meaning ‘alone’. In the Pythagorean philosophy, this was used to designate divinity as a first cause and refers to ‘the unitive good within the totality’ [Wilson, 2012]. As such, the Monad was considered the source of all things. The Pythagoreans believed that from this one source came the generation of numbers related to geometry and cosmogony: the spring from which everything comes into existence.

### 3.3.2.10 *Zero*

Zero is the circle of nothingness, the sum from which all things arise. Since man began marking sticks and stacking stones to follow the cadence of time, there has been an understanding that before the ‘One’ there was silence, Zero. Drawing a circle is like turning the wheel; while it stands alone it is not solitary for it was drawn by a drawer. No matter how large or small the circle is, it is embedded in a space still greater: infinite space. Inside its boundaries there is no emptiness for implicit within everything is a finite yet sufficient space for infinity. R. Buckminster Fuller reminded us of this greater truth when he said, “*The wave is not the water. The water merely told us about the wave moving by.*” The Mereon Matrix is a means for observing the dynamic structure and flow of what is within and without, doing so from above and below as well as around.

### 3.3.3 *Thought and Thinking, Centring, Centre and Sacred*

Poets have long looked to nature for inspiration as William Wordsworth reminded us, “*Come forth into the light of things, let nature be your teacher.*” [Wordsworth, 1888].

You can move towards an understanding of the Mereon Matrix by going about it in the same way that you would put together a jigsaw puzzle. Pictorial riddle enthusiasts know that without having a picture of what they are going to assemble, doing so is a long and thankless task: at its worst, it is impossible. For this reason, we are grateful for the years of modelling done by Robert W. Gray. His work provides far more than a picture on a puzzle box: he has produced Mereonic animations.



Figure 3.4. A geometric process etched South African stone [Henshilwood *et al.*, 2009].

The Platonic Solids are one of the most significant mathematical discoveries of all time; this well-known class of polyhedra is named after the ancient Greek philosopher Plato. While geometry first appears in his writings, geometric processes were in existence long before the fourth and fifth centuries BC. Consider the stone in Figure 3.4 that was discovered in 2001. It is covered in geometric symbols and is known to have been etched 75,000 years ago. The stone clearly illustrates that the genesis of representational art arose within the mind of humans and emerged from their hands long before the first wave of migration left the African continent. These discoveries create an enormous temporal gap in relation to the date of 25,000 BC when it has been believed that people first began to paint images of humans and animals on rock walls in caves across Europe. The enormous chronological gap between these epochs

demands a re-evaluation of 'abstract' thinking relative to the initial creation of art and the cognitive processing of dynamic forms.

### 3.4 Prototypical Modelling: Real and True Versus Truth

#### 3.4.1 Inspiration

While we have not addressed the Mereon Trefoil in detail as yet, you may find it inspiring to make a model. Start with a metre of 14-gauge, insulated solid copper wire; make one overhand loop and use a 14-gauge double-ended connector to join the two ends. We recommend using a piece of duct tape to secure the connection. It is fairly simple to open it to the trefoil knot pictured in a) of Figure 3.5. By grabbing two of the three lobes and sliding them together, you will end up with b), a circle and an ellipse. Next, fold the ellipse away from you as shown in c); then folding it again, 90° shown in d) and another 90° in e).

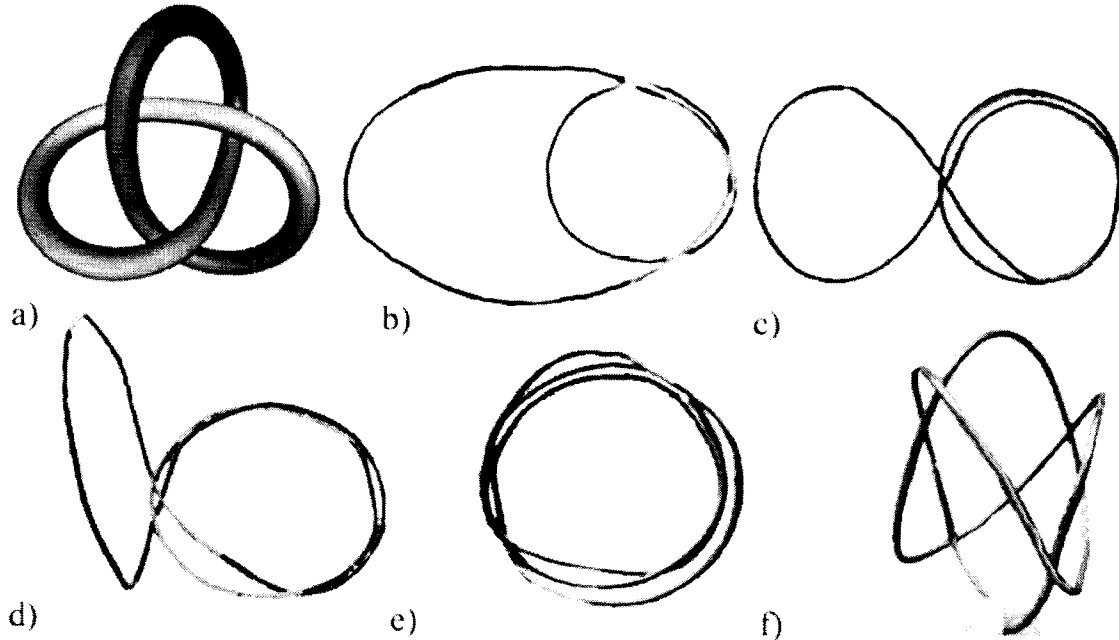


Figure 3.5. How to tie a Mereon Trefoil Knot.

When you figure out how to open it, it will look like f). You can then tie a piece of string to the north axis and attach the other end to something high enough to wind it up, let it go and watch it spin.

### **3.4.2 *Logos and Sophia and 'Sacred Geometry'***

You do not have to look far to find a school of thought that regards geometry as 'sacred'. Therefore, we feel it is relevant and important to comment on the Mereon Matrix in this context since diverse cultures and ancient wisdom traditions have designated geometry to have a special meaning.

We embrace the realm of spirit and describe it to be 'that which is individually and collectively based on positive and noble values that are meaningful and measurable. As such, it is understood that our perspective transcends the usual definition of faith as 'the substance of that which is not seen, but merely hoped for'.

In her small book, "Sacred Geometry", Miranda Lundy [Lundy, 2001] defines the subject as "...*the act of number unfolding in space*" and asserts that it is motion that creates its 'sacred' nature. This definition elevates such 'sacredness' on par with the majesty of great music. A symphony has the power to invoke passion and lift an audience out of their seats and onto their feet. So too, the Mereon Matrix as a unitive pattern has stirred common noble values among vastly diverse people and awakened a resonance of sameness that paradoxically assures that each one of us are unique.

It is a simple fact that everything comes from one thing. We are the same stuff as all the universe, and while 'star stuff' is a significant and even powerful metaphor, it is not a scientific fact. Therefore, it must be acknowledged that nothing is different or more sacred than anything else. Distinctions between one thing and another are found in the structural arrangements that make something unique. We find that the Mereon Matrix reunites the secular with spirit and provides a natural ligature between scientific and social disciplines. For this reason we state that from our perspective if anything is sacred then everything is sacred.

We do find something 'divine' in the Mereon Matrix; however it is not to be confused with a religious concept of 'divinity'. The Matrix is

Matrix that has a primordial and *universal* influence in the development of any system. Space is not passive and therefore it not only allows, but requires the presence of time. This natural union is the ultimate principle behind all change. Temporal and spatial realities are simultaneous, concurrent within the Mereon Matrix. This union provides the characteristic of an invironment within an environment, both spaces in which all elements are inter-connected and can be contacted. Thus, the spatial-temporal nexus is omnipresent, omniscient, all-powerful, sovereign, immutable, impartial, irreversible, infinite, self-existent and self-sufficient, and the union of eternity and space are transcendent.

The not-so-simple act of observing, then imagining and articulating has compelled us to ask and courageously answer a multitude of questions. In this process, we continually find new paths and avenues that lead to a deepening of our knowledge. Such is the nature of evolution: change slowly, and over time our perspective evolves.

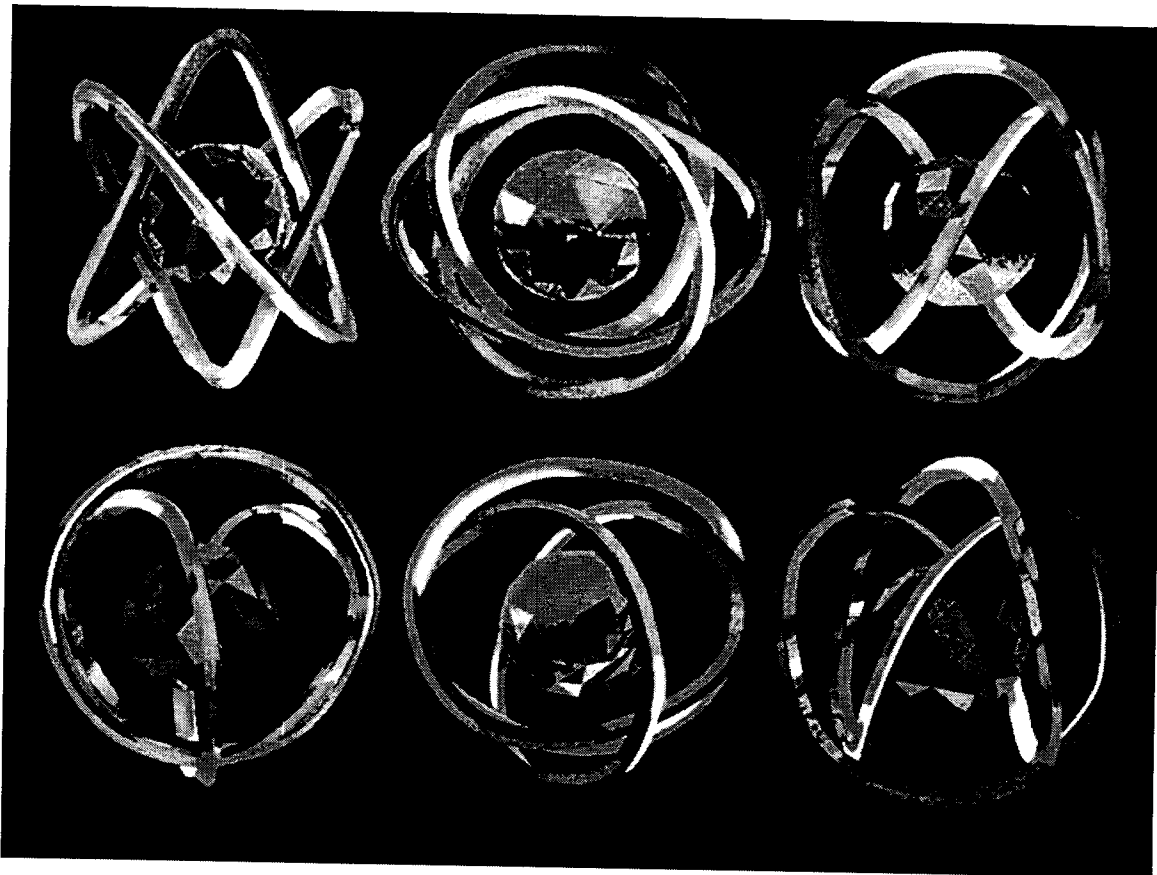


Figure 3.6. Six perspectives of the Mereon Trefoil, circa 1996.

In his book, “The Universe in a Nutshell” [Hawking, 2001 (p. 33)] makes direct and dramatic visual use of the metaphor of a knot in time and a knotted fold in space-time. He suggests that an inflated Trefoil Knot is a model for time. As was introduced in Figure III.1, the trefoil is the simplest knot; you will learn in Chapter 8 that its fundamental nature is rooted in the Golden Ratio. While Hawking may have intended a more complex topology in his mathematical modelling, we find it significant that the surface structure of his process and geometry fundamentally matches the simplicity of the Mereon Trefoil as explored in detail in Chapters 8 and 9. Six images of the Matrix’s unique knot are shown in Figure 3.6. Each illustrates that a different perspective, a visual perception of *difference* that is related to an observer’s point of view. As we have all experienced, looking at a situation is very different from being involved in it. In exploring the Mereon Trefoil we discovered insight through observing that changes in the system dynamics altered its internal structure.

#### 3.4.4 *It’s all about Time*

Time can be imagined as a synchronised gear mechanism much like that in a clock. We cannot make more of it: it is invisible but we certainly can see its effects. We cannot hear it but we seldom stop talking about it. We are unable to speed it up, and we certainly cannot slow it down. Life slides away with time, and no matter how much effort is put into managing it, time continually proves that it is managing us. Change and evolution are alternative expressions for time. By imagining the geospherical knot defined by the Mereon Matrix as time wrapping around space, it defines the space it flows through. This becomes obvious when looking at the knot itself and realising that it can be readily defined by the empty space surrounding it. Some might argue that what exists beyond our observation is beyond our cognition, however in the realm of abstract mathematics, forms, space and time are commonly explored. With the Mereon Matrix now visible with Cymatics, our agreement with Einstein’s assertion that, “*The most incomprehensible thing about our universe is that it is comprehensible*”, has taken on new

meaning. The Mereon Matrix now offers fresh insights into the structural dynamics of space and time and is advancing our understanding.

#### 3.4.4.1 *Intervals*

The Matrix and its universal patterning match those processes that sustain living and non-living dissipative systems. As such, it compels us to reconsider that we think about space and time both inside and outside a system. As any system forms, it encounters and interacts with time and its environment. This interaction occurs, almost unimaginably, with undetectable motion. This sense of stillness allows us to observe dynamic systems and provides the fundamental key to the simple principle behind the Pythagorean theory, “the Music of the Spheres”.

Cowen in his article “Kepler’s surprise: The sounds of the stars” presents data from NASA’s Kepler space telescope showing that it is revolutionising Asteroseismology. Cowen [2012] writes,

“Johannes Kepler... theorized that Earth and all the other known planets made their own sounds — an arrangement that he called the music of the spheres. It would be only fitting if celestial music, of a kind, had a key role in the Kepler space telescope’s most prized discovery.”

The Mereon Matrix enables us to observe and quantify the nature of relationships inherent in and between dynamic systems from a number of new perspectives, as follows: the connections can be mathematically expressed from a single point to movements in space, forms are comprehensible and understood from inside-to-out and outside-to-in, and the dynamic can be temporally evaluated in retrospect and in current situations in a way that allows for a reasonable predictive perspective to be stated.

#### 3.4.4.2 *Ptolemy, Pythagoras and Kepler*

Pythagoras (BC 570) was the first to posit the ‘Music of the Spheres’ after realising that the particular tone of a musical note was in direct proportion to the length of the string that produced it. He also came to believe these intervals reflected the spatial ratios between planets. He

appreciated that the intervals were determined by the ratio, the space and time between a series of harmonious sounds.

[Lynn, 1896], in his account of the life of the great philosopher Ptolemy, reveals that he also explored the relevance of time and space and wrote texts linking the intervals and ratios of planetary aspects to astrology. Johannes Kepler's 'Harmonices Mundi' was based on Ptolemy's treatise. Influenced by arguments in Ptolemy's work, 'Tetrabiblos, Optics and Harmonica', Kepler measured optical perceptions by looking for and finding the connection between geometrical patterning, musical resonances and planetary harmonies. [Lissauer, 2009] presents how Kepler's insight into planetary orbits continues to reveal new perspectives of the Universe, from extrasolar Earths to black holes. The connections Kepler made between music, time, harmony and ratios, was universal and an integral part of a Universal Law. His proposal was that mathematical harmony supply the cosmic glue that binds all parts as one.

#### 3.4.4.3 *The Astrolabe: Starts and Stars*

For more than 2,000 years, astronomers have possessed an extraordinary perceptual capability: a technology of mindfulness that allowed them to project temporal and spatial information onto a plane so they could conceptualise it in a scientific way. This approach led to the remarkable array of tools we have today. The production of a technological instrument that provided a projection technique, known as the astrolabe, was developed by the ancient Persians. This tool, created before 400 AD, was effectively an ancient analogue calculator.

Only a few tattered remnants remain of references to the life and work of the philosopher and mathematician Hypatia [Deakin, 1995], by most accounts she was an incredible human being. One of the few remaining documents is a letter written by her student, Synesius of Cyrene, regarding the astrolabe. In this letter, it is obvious that the astrolabe was an instrument she knew well, used and perhaps even refined. The most popular model was *planispheric*, and projected a celestial orb onto the plane of the equator. By drawing the sky on the face of the astrolabe, marks were made so that all the planetary positions

were easy to identify and find. The instrument provided a process to create the clear visualisation necessary to resolve many astronomical problems in measurable ways. What's more, the astrolabe could be used day or night. Not only was the observer able to find the time of day, they were able to predict when the sun would rise or set and the occurrences of astronomical events such as solar and lunar eclipses. Ancient scientists sought to forecast when these celestial events would take place. Two thousand years later, the astrolabe remains an effective tool for solving problems relating to time based on the position of the observer, the Sun and stars.

#### *3.4.4.4 A Timeless Cycle of Beginnings and Endings*

In Chinese and eastern cultures, astrology has long been a critical aspect of life. It is an art employed as a guideline to manage life by tracking planetary events as they unfold in time and space. Therefore, the astrolabe may have provided a sense of science to the art of astrology. This tool allowed astrologers and astronomers alike to determine the position of the sun, moon, planets and stars at a specific *place*, and at any given *moment*. By adjusting its moveable components, they were able to set a specific date and time that enabled them to 'see' on the face of the astrolabe what would be visible in the heavens. Both astrologers and astronomers used their competences to translate their perception of the relationships between planetary, solar and stellar objects in relation to their respective fields.

#### *3.4.5 An Effective Technology of Intent and Attention*

The Mereon Matrix presents an opportunity to individually and collectively renovate the perceptual capabilities that have long been cultivated by philosophers. It provides a process tool with all the integral mechanisms necessary to thoroughly consider the aspects relevant to any situation. As a technology of attention and intent, the Matrix offers:

- (1) A pragmatic methodology for evaluation of resources
- (2) Assessment of physical capacity
- (3) Dialogic imperatives

- (4) Temporal reflection
- (5) Sufficient space overview and order actions
- (6) Elements to coordinate quality control and risk assessment
- (7) Means to assure coherence, planning and retaining action process
- (8) Producing stable products and generating a self-sustaining feedback loop

The Mereon Matrix requires the surrender of false expectation and demonstrates that viable systemic needs cannot be predicated solely by the concerns of one individual or group. Mereonic decisions are based upon reflections that take into consideration the health of both the internal and external environments. Choices are not made based upon ego or economic bias driven by the notion that a singular perspective is right and all others are wrong. The Mereon Matrix fosters timely decisions that require taking into account prior history as well as current circumstances. The Matrix nurtures genuine progress as it reveals details regarding successes and near-misses. Information about outright failures is retained to help assure that the system's capacity for learning is maintained. Retaining the knowledge of what works and what does not work is critical to foster wisdom; this sole element leads to responsive actions and advancements that define true progress.

#### 3.4.5.1 *Synchronicity and Simultaneity*

Individuals often express that the iconic imagery inherent in the Mereon Matrix geometry and the Mereon Trefoil resonates with them and evokes a sense of familiarity. Many say it reminds them of something they have seen or ought to know, and more than a few have actually said, "*I wish I'd been the one to find it.*" Dennis' soft and persuasive response has not changed, "*I wish you had as well.*"

To our awareness, there have been no reports of anything comparable to the Mereon Matrix in terms of the complexity generating this dynamic system. While many understand and talk about toroidal flow and geometry, we have not uncovered any other geometric model that conclusively produces geospherical toroidal motion. Given the history of simultaneous discovery, an often-surprising idea that suddenly appears

'out of the blue' to more than one person, one might well anticipate another report of the same discovery in light of statistical possibilities and historical predictors. Given that everything arises from one thing: *stardust born of an untold number of stars with everything connected to everything else*, it is reasonable to consider that the emergence of radical and novel innovation may be the consequence of a non-local source of 'mindfulness'. It is conceivable that conscious or unconscious awareness can lead to an evolution of mutual needs and cause the same idea to appear almost simultaneously by firing in the brain of more than one individual.

While history is riddled with evidence of collective need or desire that leads to radical innovation, it is only when someone actually does something about it that it actually counts. Consider the case of Alexander Graham Bell and Elisha Gray: most recognise the name Bell as having something to do with the telephone, but the majority will ask, *Elisha who?* There has not yet been a satisfactory resolution to the dispute about which one of these men really invented the telephone. The fact remains that Bell is recognised as being the inventor. Regardless of whether or not he came up with the idea, he succeeded in turning the thinking process into actionable progress by publishing his findings before Gray and writing and filing a patent.

Gladwell [2010] listed 148 major scientific discoveries that fit the pattern of thought, thinking and action. We often question why we appear to be the only ones reporting the complex and specific details regarding the discovery and formation of the Mereon Matrix. We recognise that thought is transcendent, and wonder if it might simply be a recovery or rediscovery of that which is within all of us. Our intent in presenting the Mereon system is to initiate an energetic wave that may help give rise to a collective emergence of consciousness and catalyse constructive action.

In the same way that the astrolabe was used to project a celestial orb onto the plane of the equator, Mereon is a technology we can use to help us remember to find our mid-point or middle ground. It is a path we can 'walk' to clearly observe what is above and below and what is inside and what is outside. We are enabled to find our 'true north' rather than being pulled off course by outside influences. In the same way that the

astrolabe could be used day or night, this model is a fast track that supports moving in the direction we want to go. As a predictive model, it provides a means to anticipate and make decisions that support positive outcomes. The Mereon model, geometrically and topologically, assists us to identify and organise the dynamic components in our lives. It is a tool that helps to reveal that which is visible as well as what remains invisible. This model pertains to every conceivable relationship and can be used to understand that everything is interconnected. In a similar investigative manner to astronomy or astrology, the information gathered, whether personal or otherwise, is real. A 'whole' and reliable result is dependent upon including diverse and accurate perspectives. Integrity by everyone involved leads to positive and measurable change.

### 3.5 Where is What We Think 'Is'?

Lawrence Krauss, author of "Something from Nothing," [Krauss, 2012] takes a reality bite out of deniers and nay-sayers when he reminds us that, "*It is what it is whether we like it or not.*"

First Principle Zero posits an eternal nexus: a union that may be thought of as informing a domain of pre-geometry prior to or embedded within space-time. Perhaps Mereon is an internal perspective of what many sense, experience and even measure: a dynamic model that reveals the invisible. This is a reasonable theory given that the Mereon Matrix has been revealed cymatically; this suggestion will likely take on additional weight you learn more about 'how' and where this connection is found in the physical reality, the body.

The Mereon Matrix discloses a process in which the dynamics of a geometrical structure ties a knot with no beginning or end. The Mereon Matrix starts with points and planes and develops into an embedded system of spheres within spheres similar to Russian Dolls. The dynamic image of cymatic vortices within vortices imaged in Figure 3.7 indicates the movement through such orbs, starting from the centre and working outward.

Each layer can be imagined as a slice of time imprinted by the points and previous events. The simplest way to comprehend the Mereon

Matrix is to follow the process inward to the core and then reversing to survey the logic outward to the surface. In doing so, the first principles, forms and process are revealed as a singular process with a repeating pattern. Such an exploration makes the systemic transitions clear and reveals how the Matrix transforms and expands simple resources.

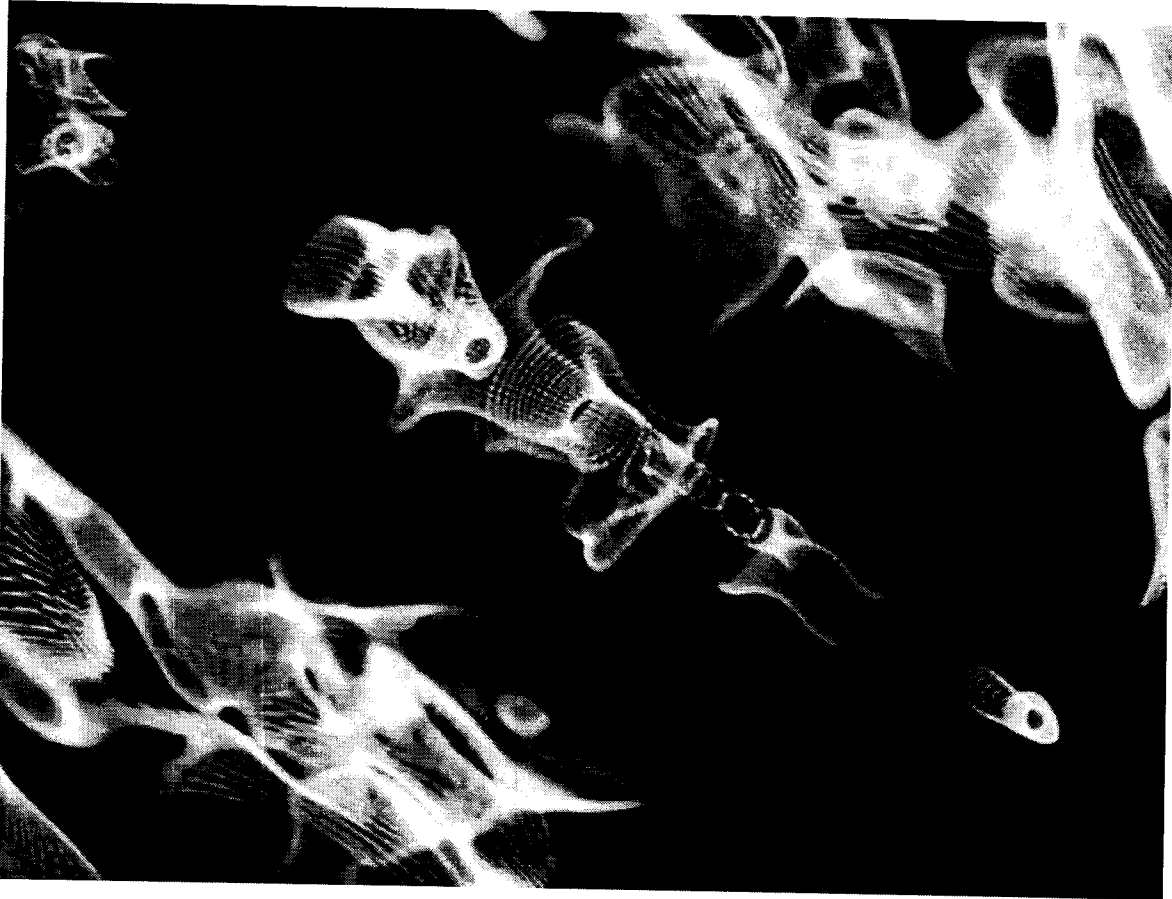


Figure 3.7. Sonic vortices within vortices (a still shot extracted from a video of a Mereon frequency imaged using the CymaScope. see Appendix B).

### 3.5.1 *Mathematical, Biological and Musical Harmonics*

The quotient commonly referred to using the Greek letter Phi was originally designated by the Greek letter Tau, meaning ‘to cut’. Phi, denotes the Greek capital letter ( $\Phi$ ), and is used to denote the larger portion of the Golden Mean, the quotient, 1.618..., hereafter denoted as  $\Phi$ ; while we will not use it, the lower case phi ( $\phi$ ), is often used to indicate the smaller portion of the ratio, 0.618... . Phi divides a line or a rectangle into unequal parts; the ratio of the sum of the quantities to the larger

quantity is equal to the ratio of the larger quantity to the smaller. This cutting has an infinite fractal quality and is self-organised in such a way that it can grow by self-replication.  $\Phi$  is most commonly expressed as  $(1 + \sqrt{5})/2$  [Skinner, 2006].

$\Phi$  is at the heart of the Fibonacci sequence, a series of numbers that grows by adding to itself in a naturally organic way. Starting with '0, 1', it can grow in either direction, the next term being the sum of the previous two: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, *etc.*

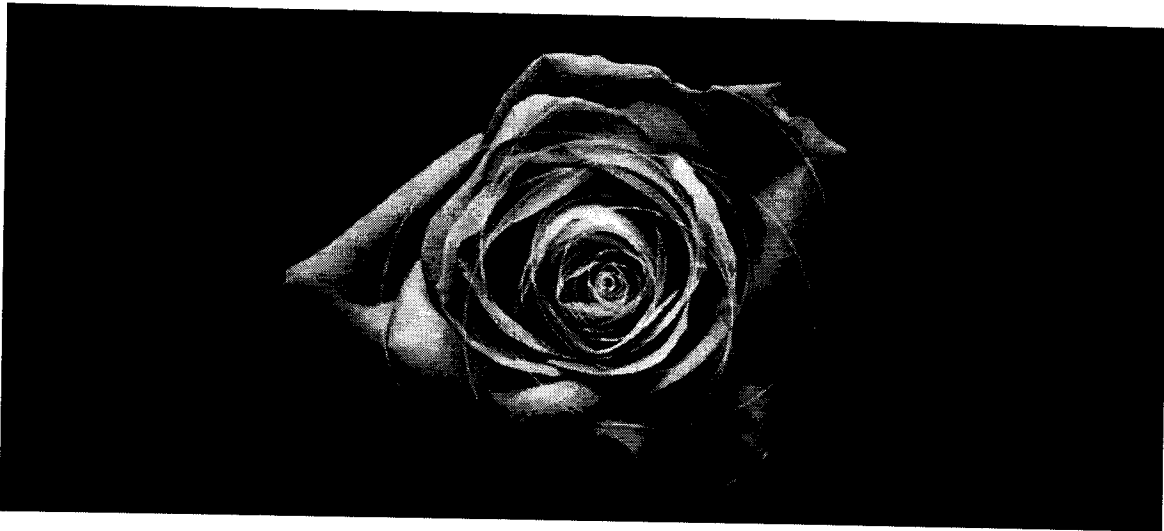


Figure 3.8. A rose embedded with Golden Ratio Circles.

The ratio of the consecutive terms is  $\Phi$ , and is found in botany, biology and physics. Golden ratio circles spin the spiral that defines the beauty of a rose. This proportion is found in the cauliflower we eat, the sunflowers we pick, the pinecones we gather, the crystals many collect and it is found embedded in the shapes of galaxies made up of billions of stars. Considering the significant integers in the Mereon Matrix, when the larger is divided by the next smaller, a similar spacing pattern appears with differences rooted in  $\Phi$ : More will be said about this in Chapter 6 with regard to layering in the Context; in Chapter 7 we will look at the correspondence between the Matrix and angles in the 120-Cell dodecaplex; we will consider this ratio as it relates to the Mereon Trefoil as a tetrahelix, octahelix and dodecahelix.

The Core in the UK Eden Project's Education Centre was designed using Fibonacci Numbers and plant spirals. Its architecture is a reflection

of Nature found in plants the world over [Eden Project]. An approximation of  $\Phi$  is found in the 12<sup>th</sup> overtone, the 13<sup>th</sup> harmonic of  $13/8 = 1.625$ . It seems perfect that this follows the 11<sup>th</sup> overtone that is known as the perfect fifth with its 3:2 interval. For further reading Ron Knott, a mathematician and lecturer for 19 years in the departments of Mathematics and Computing Science at the University of Surrey in Guildford, UK has documented the use of  $\Phi$  by musical masters of the modern world such as Debussy, Le Corbusier, and Bartok [Knott, 2010].

It is possible to understand the nature of the Mereon Matrix by comprehending its inherent harmony and the accord it generates in the context of *Musica universalis*: the music of the spheres. Harmonies are perceived by all of our senses and what is considered to be harmonious can actually encompass far more than what we hear. Harmony can be visible and witnessed in mutually beneficial agreements and cooperative efforts over time. It can be heard in an affectionate tone of voice and experienced in a loving touch. If a single key is played on a piano, the tone may be pleasing, but it is devoid of harmonic meaning. The same holds true of a two-note interval. *A third is required to define a harmony* and impart qualitative measure we ascribe to such a sound.

In the Mereon Matrix, all points, events in time, planar landshapes and three-dimensional forms are like musical notes. Each has a unique mathematical ‘signature’, which is to say that each has a distinctive frequency and will vibrate at a different rate. The Matrix is comprised of two embedded geospheroids that are each defined by integers.  $\Phi$  defines all intervals, the space between all nodes, every plane, and the relationship between all forms. The core geosphere is based on what we consider the musical  $\Phi$ , exactly 1.625, while the context is divided by the mathematical  $\Phi$ , approximately 1.618.

$\Phi$  is found in music theory, a major chord is the consequence of a root, a major third and a perfect fifth; when a chord has these three notes alone, it is called a major triad. In contrast, the three minor notes also define a minor triad. Music composed in a minor key has a meditative and even melancholic quality because the third note is compressed and flattened by a semitone. Composers such as Beethoven often created music in the minor keys. His “Fifth Symphony” is one example. However, there is little in the way of doubt that the reason this

symphony has such universal appeal is because he ends it with what is known as a ‘Tierce de Picardie’. The last movement in the ‘Fifth’ shifts to a major triad and provides a sense of joyous release from the tension created by the movement of the minor. This sense of freedom is what repeatedly brings an audience to their feet.

$\Phi$  has long been employed philosophically to tell the human story. Pythagoras and his followers sensed that this proportion revealed the hand of the architect behind all creation. While he did not discover the Fibonacci sequence, this attributed to the medieval mathematician Leonardo Pisano Bigollo Fibonacci; he made sure his world understood its import.

T.S. Eliot (1888–1965) in “Little Gidding” wrote,

“And all shall be well and All manner of thing shall be well  
When the tongues of flame are in-folded Into a crowned knot of fire  
And the fire and the rose are one.”

[Wikiquote-3]

Thinking of the rose, a knot and the Golden ratio, we are reminded that... Kepler saw  $\Phi$  as one of the greatest treasures of geometry. [Sheynin, 2004] explores the work of Gustav Theodor Fechner whose mathematical investigations into the psychological import of mathematical proportion, including  $\Phi$  found that there may be physical reason that this is considered the most aesthetically pleasing. The most famous outcome of his analysis is the law known as the Weber–Fechner law that is connected to the humans and the wild fluctuations of the stock market.

### 3.5.2 *Musica Universalis*

Unfreezing harmonic mathematics is what we perceive as Music. It is one of the four noble languages, harmonising with silence, tears and laughter. The Pentatonic Scale is played on the black keys of the piano and is the root of all Negro spirituals, a well-known example being “Amazing Grace”. As Venus traces her path through the night sky she reveals an elegant dance with Earth; 8 Earth orbits equal 13 Venus orbits with 5 Earth ‘kissing’ Venus when she is at an apogee moment, her orbit at a point farthest from Earth. Venus’s path is pentagram-rich dance that reflects the Golden Ratio in a strange and stunningly beautiful way.

The world began to change when Galileo turned his telescope *up*, looking into the night sky instead of out to sea. Observing the Milky Way, Jupiter's moons, rings around Saturn and mountains on the moon, his eyes were surely opened. Unable and unwilling to deny what he saw and was able to prove, he let it be known that humans are mere mortals living on one of many spectacular planets. However, it was Johannes Kepler who observed, tracked and charted the orbital path of Venus around the sun by standing on the shoulders of those who came before him: Galileo and Tycho Brahe. This changed life forever and proved that the planetary orbits were not circular, but elliptical. The realisation that  $\Phi$  was at the heart of the pentagonal pattern as Venus orbits the sun, made it understandable why the elegant beauty shown here is nothing short of spectacular and leaves many a mere mortal to wonder as Einstein said, "*Rapt in awe.*"

In 1624, as Galileo began working on a book laying out the arguments in favour of the heliocentric theory [Galilei, 1632], "Dialogue Concerning the Two Chief World Systems" he became a catalyst for social change. This transformation occurred because those who were in power lost control of those they ruled. When a new knowledge that is rich in logic gives rise to simple wisdom, it is worth living for. More powerful than words, individuals like Galileo will defy death to live and make such knowledge known. Galileo achieved immortality through passing down such knowledge [Gindikin, 2007 (pp. 27–78)].

### **3.6 Work as High Play: Making a Positive Difference**

Our intent is to elevate the wisdom available within the Mereon Matrix beyond scientific knowledge. The process inherent in this system provides new insights to create radical and easily usable methodologies that can be implemented to make a positive difference in the world. Based on  $\Phi$ , and naturally transforming fundamental forms into 'Golden Ratio' clusters, the methodology and its implications for social systems are self-evident. When individuals are willing to use this process, it can help transform fractured relationships by resolving the paradoxes that arise in the presence of diverse perspectives. When differences are

understood and honoured the unitive bond of connectedness can be restored. It is important to realise that many, if not most, of the world's religions have concepts in common with many of the First Principles found in Mereon's forms and dynamics.

### **3.6.1 *Difference not Different***

The Mereon Matrix is naturally applicable to scientific and social sciences and presents a meaningful way to consider that 'a system is a system'. The world stands on the brink in a precarious state due to existing models and laws that have long dictated the rules governing the social dimension of life. Confusion, chaos, greediness and neediness reign. In light of the fact that basic-human rights are unavailable to one and all, perhaps it is time to declare 'normal' practices obsolete.

On July 10, 2012, Reuter's news service printed the following report of moral corruption in economics:

"A quarter of Wall Street executives see wrongdoing as a key to success, according to a survey by whistle blower law firm Labaton Sucharow released on Tuesday. When misconduct is common and accepted by financial services professionals, the integrity of our entire financial system is at risk."

[Reuters, July 10, 2012]

### **3.6.2 *Inside Out: Personal as Interpersonal***

The percentage in the above citation from Reuters reports a small aspect of the problem given that the number reflects only what the executives interviewed were willing to admit to a reporter.

C. S. Lewis once said that, "*Reason is the natural order of truth; but imagination is the organ of meaning.*" Reason and imagination allowed the Mereon Matrix to be applied as an exemplar of how individuals leading businesses today can come together based on shared values while having differences in their visions. In the same way we can find the unity that is the only thing that will lead humanity into a future where mutually beneficial opportunities abound. In this effort, it is possible to adapt and evolve sustainability that can be achieved in healthy, innovative and repeatable ways.

The fundamental forms of the Matrix are formed, identified and utilised within an eight step process that informs an explicit logic. This knowledge is leading to diverse and meaningful ways to understand how a system works and why systems fail. Applying the dynamic process of the Mereon Matrix to natural and social science is a means of developing and evolving understanding and wisdom that enables us to make life choices in order to function in harmony with nature and ourselves individually and as a society.

Between scientific domains, within relationships, and in the discourse of decision making within political and social organisations, disagreements often arise regarding points of view. Such discord is often based upon an observer's unique perspective. Many points of view are static and are a result of maintaining a position long anchored in a prejudice, bias or belief. Resolution requires that all parties willingly reconsider the current situation from new perspectives, doing so without ignoring relevant information or knowledge that one has spent a lifetime acquiring. The key is for those involved to willingly delve deeper than surface issues to uncover a feasible solution.

The Mereon Matrix offers a new perspective on dynamic, whole and sustainable systems. It arrives at a time when our global village is at a crossroads with many living between crossed swords. Humanity is in need of new tools for dialogue, and inherent in the Mereon model is a methodology for fostering the renewal of understanding; a new means for openly exchanging information and evolving knowledge. In this resides the wisdom necessary for the development of physical, emotional, spatial, mental and spiritual technologies to build or rebuild sustainable lives and organisations that can and will nurture the renewal of our planet. Doubtless, there are many insights yet to emerge in the exploration of the Mereon Matrix. Therefore, in this first unfolding presentation of our current understanding we remain curious, open-minded and pragmatic as we strive to remain mindful that hindsight is usually perfect. As we reflect from the present moment it is clear that it is time to move forward and implement positive changes that lead to long-term and mutually beneficial effects.

Chapter 4 presents an education project designed on the Mereon Matrix that has been successfully employed since 2004.