

Tao and the Photographic Image

-A personal and historical inquiry-



The Historical Inquiry	3
The Western Conflict	16
Proportion and Connection.....	22
Job	30
Art.....	33
Photography	37
The Artist's Engagement.....	41
On Reconnecting the Dots	42
The Personal Inquiry	43
The Images.....	44

The Historical Inquiry

It goes without saying that the world, in its vastness and complexity, is experienced very differently by each person, each culture, each time, and each place. Every individual and every culture seeks to navigate that vast complexity as they perceive it and as best as they can. To do so, they connect the dots of their world, of their experience and understanding of it, and try to create a path through it.

There are many possible connections, many paths. Some bear fruit; others end in failure. And not all dots are available to any person, or culture at any given time. Some of the dots are different and unique to a specific time or society, but, overall, there is a vast infinity of dots that are common to all times and places, and can be accessed by a vast variety of individuals within them, if they so choose.

Some Eastern traditions have connected the dots of their experience and understanding of the world in a way that has led to an integration of the spiritual and the worldly. In the West, we have connected the dots—and many dots that are the same as Eastern dots—very differently, and then in such a way that has created not a harmony, but a profound and enduring conflict between these two aspects. For this reason, those in the West who seek a more integrated understanding and experience of their world, often look to Eastern cultures to cultivate those spiritual connections. This present inquiry considers whether some of the dots of our own culture can be reconnected in such a way that might also lead to a similar experience and awareness as that of the Eastern integration, and specifically, whether a nineteenth century European innovation—photography—might present an opportunity to find such a congruity within present-day Western secular/materialist culture. One of the Eastern philosophies that has appealed to Westerners seeking this integration is Taoism. However, for the most part, to engage with its teachings, one has to study some traditional Eastern application: meditation, tai chi, ceramics, etc., which embody these principles.

As noted by Joseph Needham, the British biochemist, historian of science, and Sinologist, “In the Chinese world view, the harmonious cooperation of all beings arose, not from the orders of a superior authority external to themselves, but from the fact that they were all parts in a hierarchy of wholes forming a cosmic pattern, and what they obeyed were the internal dictates of their own natures.” He notes, “This grand concept originated in remote times, from observation of the heavens and of nature—the rising and setting of sun, moon, and stars, the cycle of day and night, and the rotation of the seasons—suggesting the existence of laws of nature, a sort of divine legislation that regulated the pattern in the heavens and its counterpart on earth.”ⁱ As a result, Taoism has had a profound and



multifaceted influence on the arts of China, impacting various forms of artistic expression. These arts were sourced in several basic principles.

Spontaneity and Simplicity: Taoism advocates spontaneity and simplicity. Many Song Dynasty painters embraced a spontaneous and unrestrained approach to their art, allowing brushstrokes to flow naturally and expressing simplicity in their compositions. By being in harmony with the larger energy flows around them, this approach aimed to convey the intrinsic beauty of the natural world.

Contemplation and Meditation: Taoist monks and scholars often engaged in contemplation and meditation. Some painters, whether Taoist monks or influenced by Taoist principles, incorporated a meditative engagement into their works. The landscapes they painted were not merely physical representations but also served as contemplative spaces.

Emphasis on Chi (Life Energy): Taoist philosophy emphasizes the concept of chi, or life energy and artists sought to engage with and express this dynamic energy of nature in their paintings.

Harmony with Nature: Taoist philosophy places great importance on living in harmony with nature. Song Dynasty landscape painters sought to capture the essence of nature in their artworks depicting mountains, rivers, and landscapes in a way that reflected the Taoist idea of unity between humanity and the natural world.

The great unifying aim of Taoist-inspired Chinese art has been to express Tao—the Way—the basic Chinese belief in an order and harmony in nature. But is it possible to reconcile an Eastern philosophy with a Western technology, in this case photography, where each is rooted in very different cultural traditions and imperatives? Others have considered this challenge in other fields and disciplines. Published in 1975, “The Tao of Physics” by physicist Fritjof Capra, explored the parallels between modern physics and Eastern mysticism. But before considering them, he said, “We have to deal with the question of how we can make any comparison at all between an exact science, expressed in the highly sophisticated language of modern mathematics, and spiritual disciplines, which are mainly based on meditation and insist on the fact that their insights cannot be



Figure 4 Figure 1 Landscape in the style of Fan Kuan, early 12th century, Song dynasty (960-1279)

communicated verbally.”ⁱⁱ This challenge was noted on both sides of the cultural divide. D. T. Suzuki, the Japanese essayist, philosopher, religious scholar, and noted authority on Buddhism, observed that, “The contradiction so puzzling to the ordinary way of thinking comes from the fact that we have to use language to communicate our inner experience which in its very nature transcends linguistics.”ⁱⁱⁱ

Back on this side of the divide, the great Western physicist W. Heisenberg, developer of the eponymous uncertainty principle, echoed this notion. “The problems of language here,” he wrote, “are really serious. We wish to speak in some way about the structure of the atoms ... But we cannot speak about atoms in ordinary language.”^{iv} However, In “Principles of Chinese Painting” George Rowley saw art as a possible means of bridging this divide. “With Taoism,” he wrote, “art tended to take over the functions of religion and philosophy and would become the prime vehicle for man’s most profound thoughts and his feelings about the mystery of the universe.”^v



Figure 2 Summer Mountains, Attributed to Qu Ding, ca. 1050

One of the great traditions in Chinese art in which this worldview found expression was Song Dynasty landscape painting. In “The Way of Chinese Painting,” Mai-mai Sze observes, “Spiritual resources are regarded by Taoist artists as a direct manifestation of this creative power of Heaven. Through developing them, painters not only nourish that part of Heaven in themselves but, possessing it, are capable of revealing it in their conduct and activity.”^{vi} The subjects of these artists’ compositions were always predominantly from nature. And the artists who created them, she continues, drew on these spiritual resources to express the same force in the very natural thing that they depicted. This meant that paintings of trees and mountains were not representations of specific trees and mountains as we think of them in the West, but the product of the same natural force that created those trees and mountains in the first place, but now as transmitted through the hand of the artist.

The concern of both physicists and Song Dynasty painters is nature. The language of physics is mathematics; the language of Taoism is art. But here, in these seemingly disparate traditions, there is a possible congruency suggested in the idea that when physicists feel a formula is correct, it is also experienced on an aesthetic level as

"beautiful," as if it were also a work of art. The possibility that language, in this case a visual one, can illuminate an understanding of a different world view than our own, was articulated by the historian Isaiah Berlin in his book, "Against the Current." "The task before those who wish to grasp what kinds of lives have in the past been led in societies different from their own," he wrote, "is to understand their worlds: that is, to conceive what kind of vision of the world men who used a particular kind of language must have had for this language to be a natural expression of it."^{vii}

Over the centuries, both Chinese and Western artists have used the language of art to express their interest in matters of the spiritual and of the worldly. But they approach them very differently. For us, in the West, spirit belongs to the life of prayer and worship; matter is the concern of science. This has directed our art to the extremes of religious meaning and naturalistic representation. However, as George Rowley observed, "The Chinese, by not carrying empirical method far enough, failed to develop the natural sciences; and, by not pursuing the nature of spirit to the ultimate of a personal God, they never evolved a real religion in our sense of that word. Instead, the Chinese created a unique conception of the realm of the spirit, which was one with the realm of matter."^{viii} Can this unique conception of spirit and matter also be seen and embodied through photography? Before that can happen, it would be necessary to overcome the conflict that lies at the heart of Western culture and civilization.



The symbol of Taoism is one of the unity of opposites, and change, where yin and yang flow one into the other.

The two contrasting dots within each element of the symbol signify that no matter what the present state of things, yin or yang, there is always the opposite already contained within it. In the West, however, there is not a unity but rather a confrontation of opposites. This has its roots in the writings of Pythagoras and Plato, but fully flowers in medieval Europe, in the conflict between sacred and profane, and the belief, on the one hand, that there was a world of the sacred that could be aspired to and, on the other hand, the worldly or the profane that had to be purged, excoriated, and shunned. Any engagement with it was seen as sinful and for which one had to be punished, the punishment often self-inflicted.



Figure 3 Angel Musicians and Virgin in Paradise Garden - French Medieval Tapestry



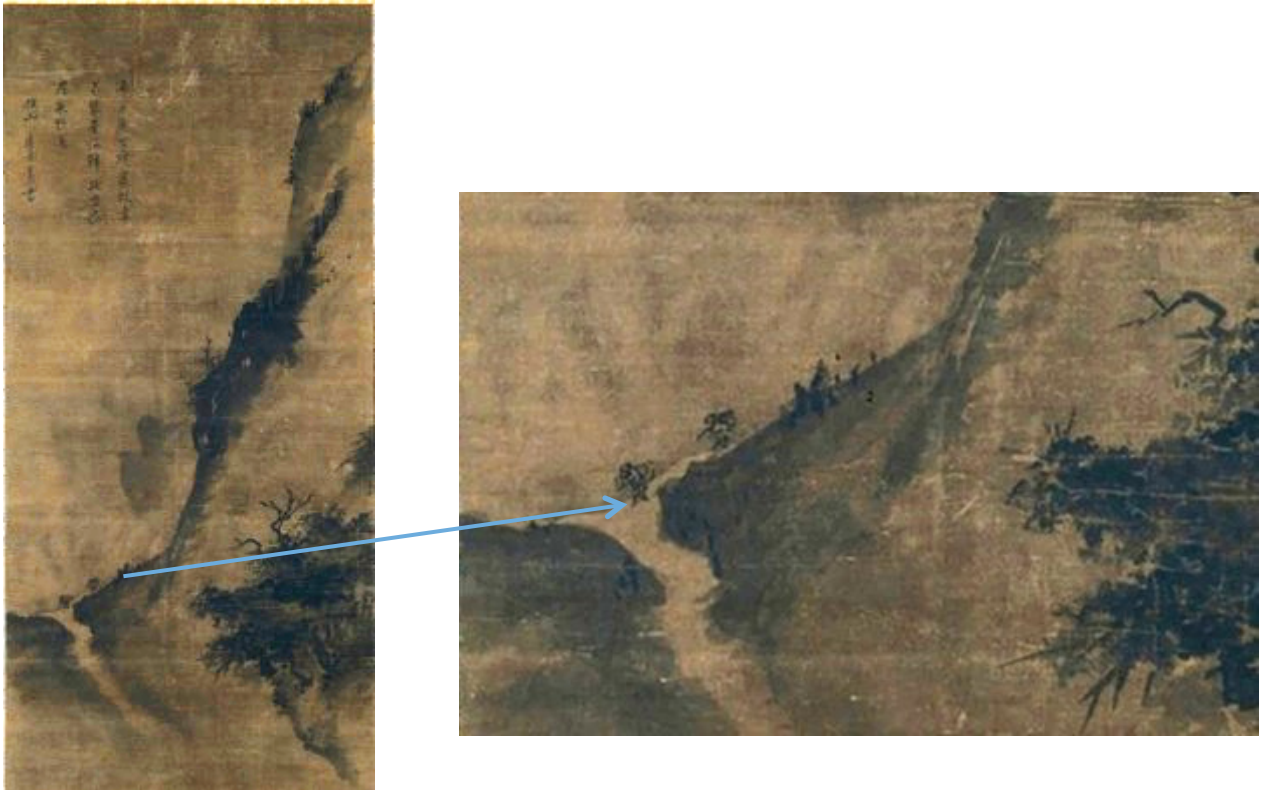
However, the discovery at that time of distant lands was a stimulus to develop navigational techniques to travel beyond the sight of land, and so find faster, shorter, and more economical routes to the riches of the East. This required knowledge of astronomy, math, geography, and physics. In the face of the new awareness engendered by these developments, and the increasing wealth that these voyages of commerce and discovery were creating, the medieval church attempted to pressure the growing middle class to stay within the traditions of asceticism that the church laid out for them.

To that end, for example, in 1354, the Church fined twenty-one Florentine bankers for usury. The wills of wealthy people at that time indicated a fear of eternal damnation, and so the wealthy bequeathed much of their riches to the church. But, eventually, the discoveries of spices, of silks, of furs, of wonderful things that the East could produce and provide Western Europeans brought an increasing worldliness and consumerism to Western European culture. By the fifteenth century, the pressures that the church applied, sometimes with considerable brutality, could no longer suppress this societal shift.

For this growing conflict to not tear apart the fabric of medieval society, there needed to be reconciliation between the medieval church and the growing middle class. There needed to evolve some mechanism by which traditional Catholic dogma and a secular materialistic worldview could coexist.



Of course, as noted earlier, this conflict between sacred and worldly did not exist in the Taoist vision. There the world was intrinsically sacred, and men and women had a specific integrated place within it. Humans and nature were seen as an integrated whole where the place of humans is small, even insignificant within the larger flow of existence.



On the other hand, in the West, as a consequence of this bifurcated worldview, nature was seen as something that needed to be dominated and conquered as a prerequisite for human development and progress.



Figure 4 Hokusai, from the series Thirty-six Views of Mt. Fuji, circa 1831 – 1834



In Western society the conflict between sacred and profane was also played out in the drama of good versus evil. A common representation of that conflict was depicted, in both stories and images, in the clash between Saint George and the dragon. In the West, the dragon is viewed as something that needs to be dominated and conquered. It is the embodiment of the evil that has tempted and beset us all, and that has to be destroyed for the good of creation. The Medieval symbol was carried forward to this day as represented in the persona of Smaug from the "Hobbit," the embodiment of infinite destructive power and cruelty, and who represented all the evils of the material world: greed, pride, avarice, etc.



Figure 4 Vitale D' Aimo Cavalli, *St., George and the Dragon* c.1320-30



In the East, however, consistent with their integrated worldview, the dragon was seen as neither good nor evil, but as a powerful force of nature, sometimes playful, sometimes destructive, but always to be respected. It is seen as a creature that bridges the earthly realm and the divine, symbolizing spiritual transformation or transcendence. Dragons are also often a symbol of Chi, the flowing, ever-present energy that circulates throughout the body and the universe.



Figure 5 Chen Rong, *Nine dragons* Chinese Southern Song dynasty, 1244

In the West, the evils that the dragon embodied were broadly represented in art. Art is a visual language that communicates, as per Isaiah Berlin, an understanding of “what kind of worldview a culture must have had for it to be a natural expression of it.” So, the imagery of dragons, both Western and Eastern, express and reflect the underlying worldviews of the cultures that created them. In the West, this image of heaven and hell continued to be expressed in literature, in poetry, in music, and, of course, in art, as exemplified by two Gustave Dore's illustrations for Dante's *Divine Comedy*, images of hell on the one hand and paradise on the other.



Figure 6 from *The Divine Comedy* "Inferno," and "Paradiso" by Gustave Doré, 1860



This kind of imagery did not go away simply because society became more technologically sophisticated or complex. The dichotomy of good and evil has carried through the centuries to contemporary Euro-American imagery in, for example, the work of Sebastian Salgado whose photograph of burning oil wells in Kuwait mirrors the spirit as well as the design and the symbolism of Dore's image of hell from a century earlier.



We can also see parallels of the terrors of damnation in Michelangelo's Last Judgment, and Eugene Smith's image of madness, or in Diane Arbus' photograph of a boy with a toy hand grenade.



Michelangelo's Pieta and Eugene Smith's image of the tragedy caused by mercury poisoning in the Japanese fishing village of Minamata evoke the conflict of sacred and worldly within the same work.



At the same time, we also have a similar continuity of images of paradise. Ansel Adams saw in the natural landscape of the American west a representation of god's divine gifts to American culture, structured and envisioned very similarly to the representation of paradise by Gustave Dore.



Figure 7 Adams, Ansel, *Mount Williamson, Sierra Nevada*, from *Manzanar*, CA, 1944,

Today, in the 21st Century, this duality of the spiritual, of the transcendent, has become very much part of American secular/consumer culture. In Bernini's masterpiece, "Ecstasy of St. Teresa," ordered by cardinal, Federico Canari for his personal chapel, we see Saint Teresa of Avila, a well-known Spanish nun, atop a cloud implying her ascent to heaven. This transcendence is similarly represented in Giotto's "Ecstasy of St. Francis."



Figure 8 Richard Avedon – Dovima with Elephants 1955

Today we can find that same expression of transcendent ecstasy, in both gesture and symbolism, transposed onto contemporary American consumer culture, as in Richard Avedon's "Dovima with Elephants," an advertisement for a Christian Dior dress. But where the frock worn by Saint Francis represents a rejection of material possessions, the Dior dress is the source of Dovima's strength. In modern marketing, postures, gestures and attitudes of the spiritual have been transposed onto the secular. It is Dovima's worldly habit that endows her with the appearance of transcendent power over nature.¹

¹ It is noteworthy that the elephants are chained, consistent with the West's relationship with the natural world in that it requires that it be tamed and subsided. The secondary implication of this is that Dovima was not actually in danger, and her "power" is just a pose, as is the dress itself.

However, also strongly imbedded in the image is the notion that only those sufficiently fortunate (and deserving) to possess the wealth to own a Dior dress are destined for ascension to the strata of the gods. There is, today, a spiritual overlay on the worldliness of ordinary tangible possessions as well. If one looks at the Avedon photograph and Bernini's sculpture, they both have a similar expression of transcendent ecstasy.



However, in the former, it is not a spiritual awakening that gives us transcendent joy, but the products that we can consume. We see that same expression widely in mass-market advertising.



In that spirit, we could redesign Bernini's sculpture in a way that brings together sacred and profane in a kind of unity, but here in our culture, not for the purposes of a spiritual integration, but rather a cynical exploitation for marketing profits and consumerism. And so, in the West, there continues to be not a true unity, but rather a modern iteration of a long-enduring confrontation of opposites, one that has its roots in medieval Europe in the conflicts between sacred and profane.



For many Western art traditions, this confrontation of opposites played out in the visual arts, of course, but also in parable, allegory, satire, and musical forms such as opera, oratorios, etc. In the contemporary world, this *Weltanschauung* has not only persisted but blossomed in media as varied as pop music, movies, and video games. Films such as "Star Wars," "The Dark Knight," "The Matrix," any number of dystopian allegories or noir crime dramas are steeped in the moral conflicts of heroes versus satanic criminal masterminds—or in broader contemporary schemes that divides the world into "Good Guys" versus "Bad Guys," which, when transferred to the political arena, quickly degrades into a ready rationale for "us versus them."

The Western Conflict

In Medieval Europe the emergence of this conflict ultimately led, on the one hand, to science, to navigation, astronomy, geography and eventually the begrudging acceptance that the earth was not the center of the universe. On the other, it led to attempts by the medieval church to suppress this recognition through various means, including social pressure, threats of excommunication and eternal damnation, even brutality and violence. Despite this enormous pressure, the trajectory of the middle class towards worldliness and consumerism, and the lure of luxury and wealth, could not be deflected. In the arts, this new worldliness was reflected in increasingly secular themes, i.e. portraiture, landscape, property, and wealth. Church dogma, which sought to dominate both realms of this divide, the world and the spiritual, came under scrutiny from the growing middle class, monarchs, and intellectuals who wanted to reclaim personal autonomy and control of the daily, worldly aspects of their lives. Both sides were powerful and entrenched. As a result, the Church's role in regulating both the spiritual and secular spheres was increasingly challenged.

Church dogma, with its teachings on salvation, sin, and divine law, had for centuries laid the foundations for the manner in which people were expected to live their lives. The rise of trade, the growth of cities, and the expansion of the middle class created a different kind of social order. People in the emergent middle class were more focused on practical, worldly matters such as commerce, finance, and legal rights. Additionally, the discovery of Greek and Roman intellectual, scientific and cultural traditions buried beneath their feet all served to move the newly-minted bourgeoisie to embrace worldly pleasure and reject the austerity the Church demanded of its followers. For the middle class, religious practices seemed increasingly distant from their lived realities. Humanism, with its emphasis on individualism and reason, further fueled this shift, encouraging people to explore non-religious aspects of human existence, like art, literature, and philosophy.

Eventually, the Church realized that, in light of the looming Renaissance of ideas and their concomitant worldly expression, there was a need for reconciliation. Wisely, instead of doubling down on their vision of abstinence and denial, the Church sought a means by which both traditional Catholic dogma and a secular materialistic worldview could co-exist. The foundation for this reconciliation was laid in the thirteenth century by Roger Bacon in his "Opus Majus." Implicit in his writings was the notion that there was nothing to contradict the belief in the union of mathematical logic and god's divine grace. "Oh," he said, "how the ineffable beauty of the divine wisdom would shine and infinite benefit would overflow if these matters relating to geometry, which are contained in the scriptures, should be placed before our eyes in their physical form." This notion was echoed by the English theologian, Thomas Bradwardine, who in his treatise, "De Geometria Speculativa," suggested that the

theoretical infinite space of mathematicians and the physical space one sees before one's eyes are one and the same. This mathematical foundation of an integrated worldview found full expression in the Renaissance, in particular in the notion of beauty. According to the Italian Renaissance architect, artist, and polymath, Leon Battista Alberti, ***“Beauty is a harmony of all the parts in whatsoever subject it appears, fitted together with such proportion and connection that nothing could be added, diminished, or altered, but for the worse.”***^{ix} If they could find in art an expression of the physical world that was both mathematical and beautiful, then the two antithetical notions of sacred and profane might coexist peacefully in the same cultural space.

One of the main facilitators of integrating mathematics and art in this period was the development of linear perspective, which was a way of rendering the three dimensions of the world on a two-dimensional surface in a way that was based on a mathematically consistent spatial system. Many other cultures, of course, had spatial systems to represent the three dimensions of the world, but none of them were mathematically consistent in this way; there was no cultural need for it. Leonardo da Vinci, of course, was a great proponent and innovator of techniques that allowed for those kinds of renderings.



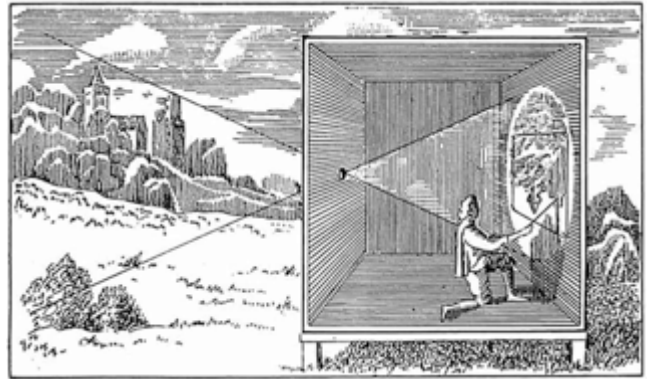
Figure 9 Leonardo da Vinci, *Man using a transparent plane to draw an armillary sphere*. 1510 (ca)



Figure 10 Earliest published illustration of a camera-obscura depicting the solar eclipse, 1544

It was previously noted that in Taoist thought art would take over the functions of religion and philosophy, and would become the prime vehicle for our most profound thoughts and feelings about the mystery of the universe. In the Renaissance, we see a parallel worldview in which art and beauty and the creative processes become the place in which much of religion and philosophy finds expression. To facilitate the accurate creation of this Renaissance perspective system, artists developed, many technical tools. One of the main ones was the *camera obscura*.

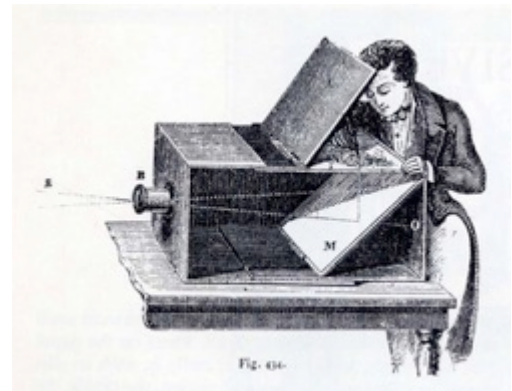
Leonardo took careful note of this device. He compared the human eye and the way it sees to lens of the *camera obscura*. "If the facade of a building or a place or a landscape is illuminated by the sun and a small hole is drilled in the wall of a room in a building facing this, which is not directly lighted by the sun, then all objects illuminated by the sun will send their images through this aperture and will appear upside down on the wall facing the hole. You will catch these pictures on a piece of white paper, which placed vertically in the room not far from that opening, and you will see all the above mentioned objects on this paper in their natural shapes or colors, but they will appear similar and upside down on account of crossings of the rays at that aperture. If these pictures originate from a place that is illuminated by the sun, they will appear colored on the paper exactly as they are. The paper should be very thin and must be viewed from the back."^x



And so, over the centuries the *camera obscura* became an important tool for artists to render the world using a perspective system that was mathematically based.



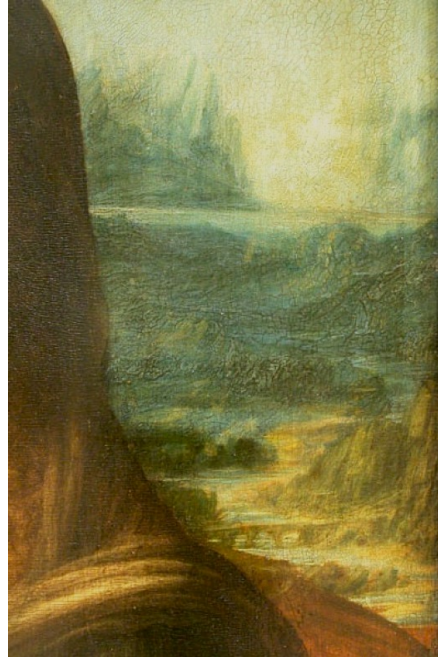
Figure 11 Leonardo da Vinci, *Star of Bethlehem and Other Plants*, 1510



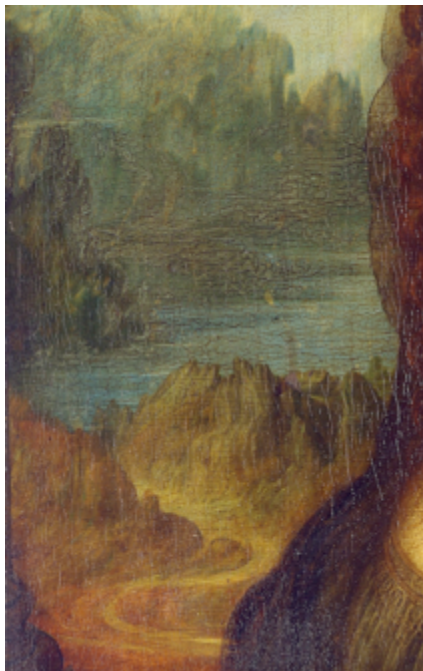
With the development of oil painting, artists—coupled with the power and authority of perspective—were, for the first time, able not only to render but also to celebrate the wealth and prosperity of their patrons without violating the spiritual canons of church teaching.

One of the great unifying aims of Song dynasty landscape painting was a celebration of nature in a form—landscape painting—that embodied the basic Chinese belief in an orderly and harmonious natural world. Leonardo da Vinci, in his explorations of both art and science, was also drawn to landscape and nature.

If one looks closely at some of his works, they reveal his ongoing interest in landscape and the natural world. Over the left and right shoulders of the Mona Lisa, for example, there are two small landscapes



Reminiscent of the Taoist vision, the one on the right contains a small bridge, a manmade structure integrated in a way that was both modest and harmonious. Over her left shoulder, there are mountains and the little pathway through them that were rendered in a manner that also suggests not only in spirit but the style of Taoist landscape painting.



In the landscape in the background of his “Annunciation,” we again see a small town and mountains that evoke very much the landscapes celebrated hundreds of years earlier, and thousands of miles distant.



This is not to say that Leonardo had knowledge or experiences of Taoist landscape painting, only that the dots of culture can be connected in ways that break with tradition and approach the kinds of connections seen in other cultures with significantly different worldviews. The dots are not intrinsically Western or Eastern or northern or southern, but rather convenient handles attached to the infinite continuity of the world. The connections we can construct between them are limited only by what the mind is taught, what it expects, and is therefore predisposed to see.

Taoist sages saw the world as “fitting together” in perfect harmony, without excess or deficiency, as part of a spontaneous natural order. This view emphasized an effortless coherence where everything is in its place, operating according to its nature, not by force or planning but by *non-action*. In the Chinese world view, according to Joseph Needham, “Universal harmony comes about not by the celestial fiat of some King of Kings, but by the spontaneous cooperation of all beings in the universe ... not from the orders of a superior authority external to themselves, but from the fact that they were all parts in a hierarchy of wholes forming a cosmic pattern, and what they obeyed were the internal dictates of their own natures”^{xi}

This concept of things precisely and intrinsically fitting together was mirrored in Alberti's concept of Beauty, “a harmony of all the Parts in whatsoever Subject it appears, fitted together with such Proportion and Connection, that nothing could be added, diminished or altered but for the Worse.” Alberti saw, too, that this harmony was to be found in the other arts, particularly music. “We shall therefore borrow all our Rules for the Finishing our Proportions, from the Musicians,” he stated, “who are the greatest Masters of this Sort of Numbers, and from those Things wherein Nature shows herself most excellent and complete.”^{xii} Today, even in our contemporary world, we celebrate the Renaissance concept of beauty in such popular cultural expression as

the film “Amadeus,” in which the Emperor tells Mozart that in the piece he had just heard “there are simply, too many notes.” And Mozart replies, “There are just as many notes, Majesty, as are required. Neither more nor less.”

The underlying conflict between sacred and profane has persisted to this day as a fundamental premise of our contemporary Western culture. Over the centuries, the iron grip of religious dogma and theocratic control—with the exception of a few pockets of hermetic orthodoxy—has faded, and the materialism of an omnivorous middle class has ascended. Now, on a structural level, the secularization of Western society is effectively complete. With that structural worldliness—and the concomitant celebration of consumerism and wealth—art objects are no longer a bridge between two conflicting world views, but instead have become themselves a signifier of the triumph of material wealth and power over that of the realm of the spiritual, conferring on their owners prestige, status, and often significant return on investment.

The increasing value of art as a commodity parallels in many ways the shift from the gold standard to fiat money, reflecting a broader cultural move from inherent value to constructed or perceived value. Where the value of art was once based, like so much else, on the labor and materials that went into its production, the worth of *objects d’arts* today is limited only by the availability of cash and the owner’s willingness to spend it. Like fiat money itself, art today is not backed by a physical commodity—its value is based on trust, perception, and consensus (what art experts and art markets say it’s worth). This means both money and art have become symbols, divorced from physical backing or traditional function, and subject to manipulation, speculation, and the politics of prestige.

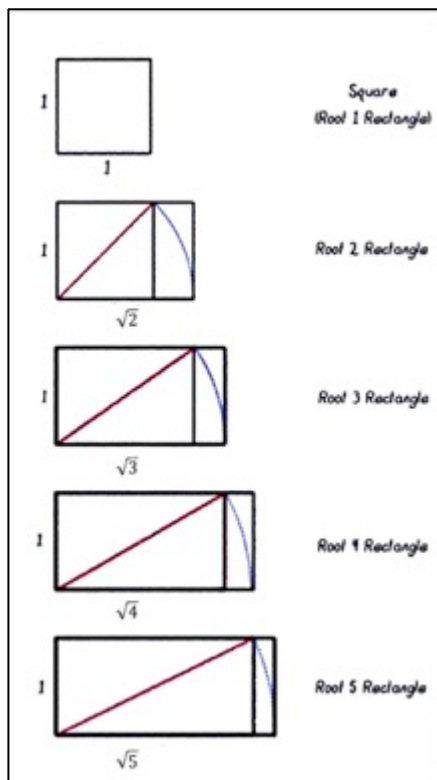
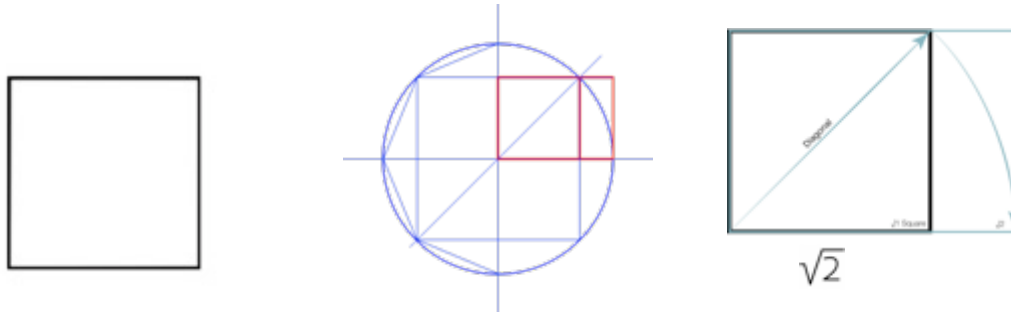
As such, the utility of the notion of mathematically based harmony and beauty has faded, no longer necessary as a bridge between two conflicting social imperatives. Art that once celebrated that harmony, creating a tangible expression of the reconciliation between the Church and the middle class has been decoupled from that role. As a result, Alberti’s concept of beauty has been sidelined by the present-day need to attract market share, often through the violation of expectations and other strategies of product differentiation. Today, the role of art is as economic ballast. This counterweight provides economic stability in an inflationary ocean of ever-expanding cash.²

² See “The Value of Art” at www.languageofphotography.com for a fuller discussion of this role.

Proportion and Connection

The Golden Section

The great unifying aim of Song dynasty landscape painting was to express the basic Taoist belief that there is an order and a harmony, a cosmic pattern in nature, and it was suggested that this concept was mirrored in the Renaissance notion of beauty and harmony and proportion. To this end, the Renaissance artists explored many design proportions such as the square, the square root of two, the square root of three, four, etc., which are derived from the original square.

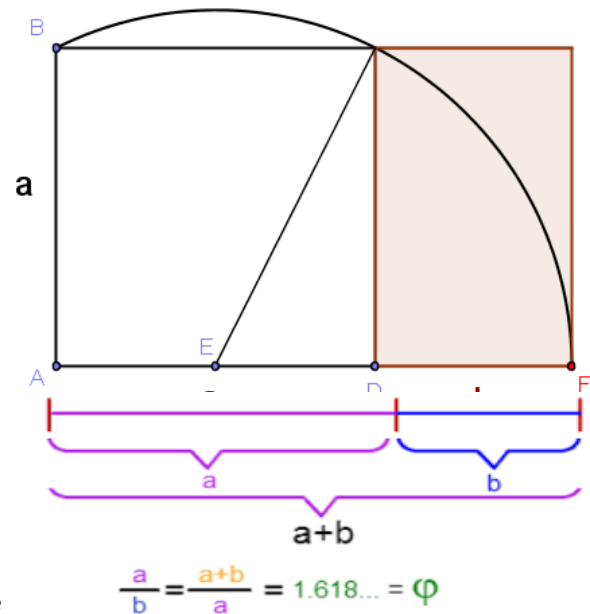


However, of all the proportions explored by Renaissance artists, the one that was held in the highest regard was the Golden Section. The Golden Section is a proportion that was known throughout the ancient world including by Greek, Arabs and Egyptian artists and architects.



Golden Section

It, too, begins with a square. But instead of drawing the arc from the corner, as in the square root of two proportion, it is drawn from the center of the baseline and extended outward as an arc. It yields a proportion of the relationship between the sides, and that proportion is 1.618.... . This value is an endless, irrational number. Euclid described the relationship between the two sides of the Golden Section rectangle in this way: "A straight line is said to have been cut in extreme and mean ratio, the Golden Section, when as the whole line is to the greatest segment, so the greater is to the lesser."^{xiii} Euclid observed that when a line is divided such that the ratio of the shorter segment (**a**) to the longer segment (**b**) is the same as the ratio of the longer segment to the whole line (**a + b**), the result is a unique mathematical proportion. This ratio—known as the **Golden Ratio**—is represented by the Greek letter **phi** (Φ) and is approximately equal to the irrational number **1.618....**



Phi also appears at the heart of the **Fibonacci sequence**, in which each number is the sum of the two preceding ones. Although the sequence was known in Indian mathematics as early as 200 BCE, it is named after the Italian mathematician **Leonardo Fibonacci**, who introduced it to Western mathematics in the 13th century.

The sequence is based on the sum of the previous two numbers.

Fibonacci Sequence

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987 ...

Each number is the sum of the previous two numbers.

The Fibonacci sequence appears frequently in nature. It can be found in patterns of branching trees and other “growing” structures such as river deltas. It also appears in Pascal's Triangle, which represents the mathematical structure of probability. If one adds up the numbers in Pascal's triangle diagonally, they form the Fibonacci sequence

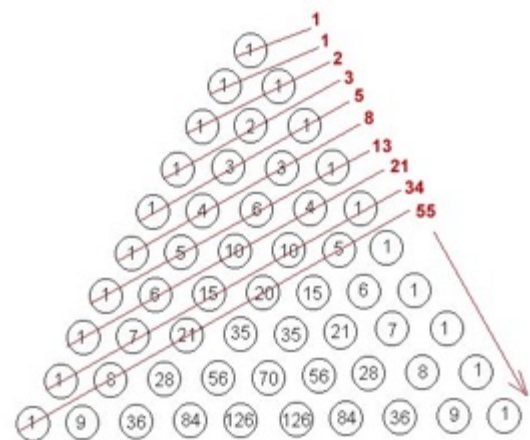
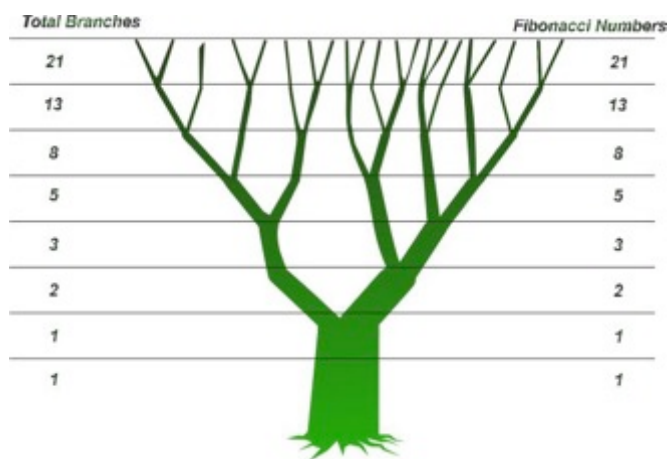
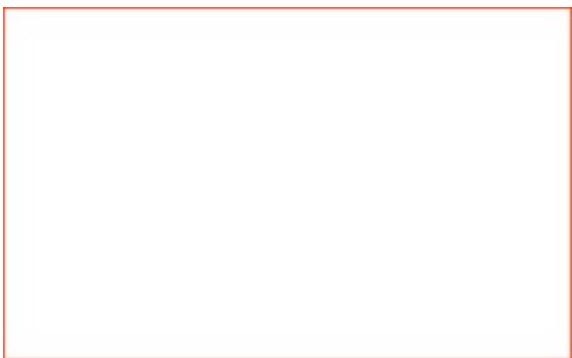
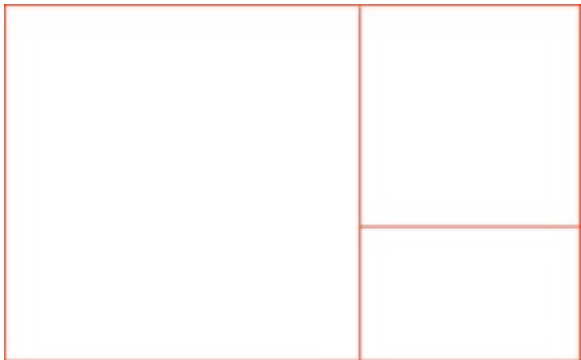


Figure 12 Pascal's Triangle

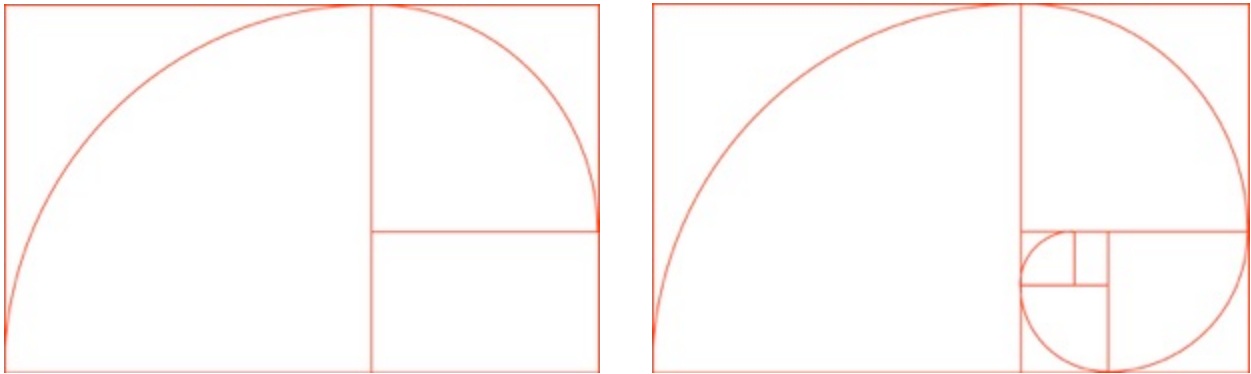
The Golden Section has many other interesting qualities as well. It can, for example, be divided into a square and a smaller Golden Section.



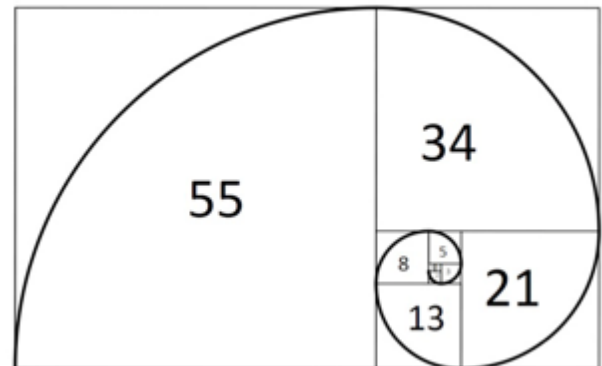
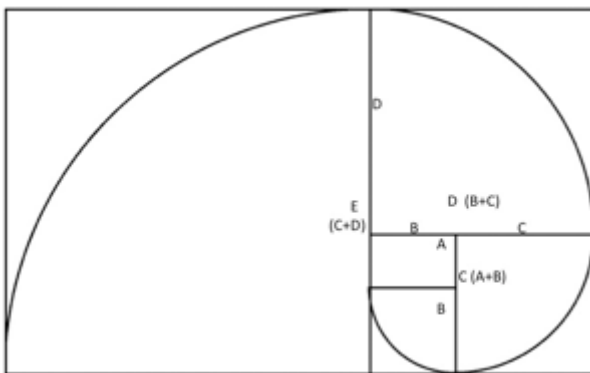
That smaller Golden Section, in turn, can be subdivided, creating yet another square and another Golden Section.



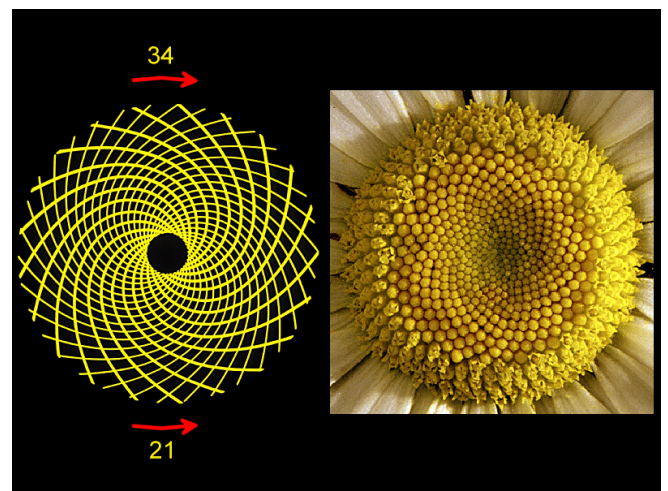
Drawing an arc from one corner of the initial square to its opposite corner and then continuing that arc through the next square, constructs what is known as an equiangular spiral.



The lengths of the sides of each section of the spiral correspond to the Fibonacci sequence. Like the sequence itself, each side is the sum of the two preceding sides: side C equals side A plus side B; side D equals side B plus side C; and so on. When numerical values are assigned, the proportions clearly reveal the Fibonacci sequence in visual form.



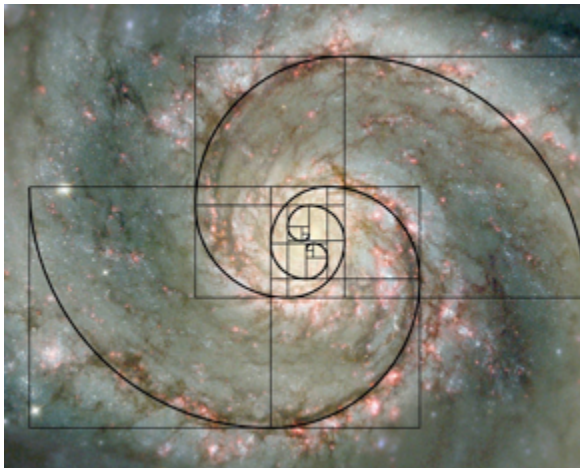
This spiral is not only found throughout nature; the Fibonacci sequence itself is intrinsic to the structure of many living organisms. The central florets of flowers—ranging from daisies to sunflowers—as well as the natural designs of pine cones, pineapples, and similar plants, exhibit patterns arranged in a series of equiangular spirals. Additionally, the number of spirals counted clockwise and the number of spirals counted counterclockwise is always two adjacent Fibonacci numbers.



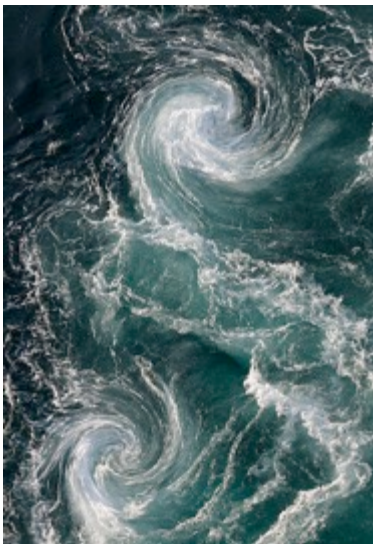
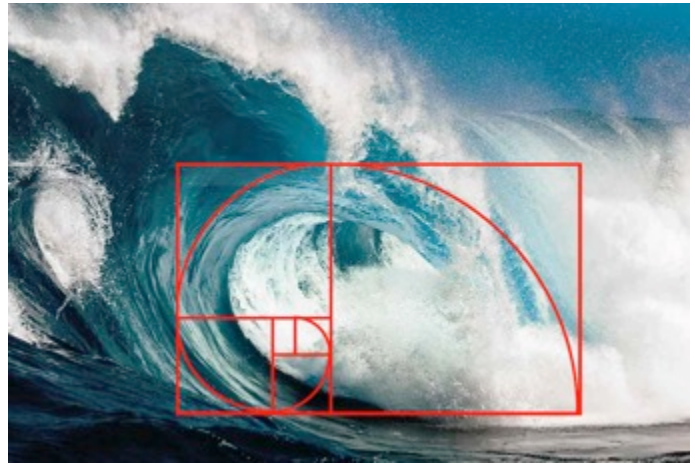
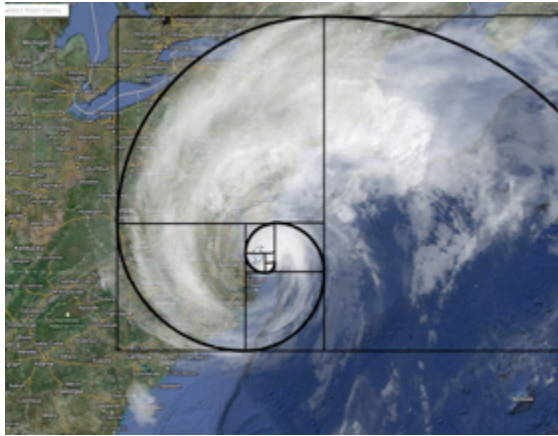
The shells of many ocean creatures as well as plants and mammals utilize that growth pattern.



It is integral to a vast array of natural phenomena—from the arms of spiral galaxies spanning hundreds of thousands of light years,...

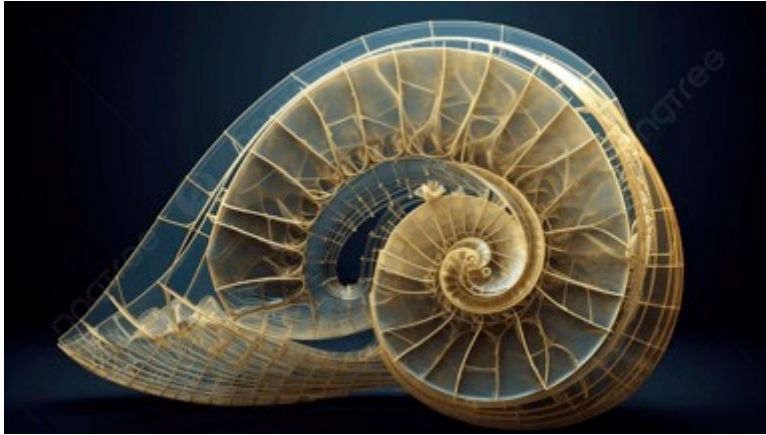


...to hurricanes forming here on Earth, to crashing waves, and even to water spiraling down a drain



Many plants and animals, from snails to lizards' tails, exhibit the same, Fibonacci/Golden Section spiral.





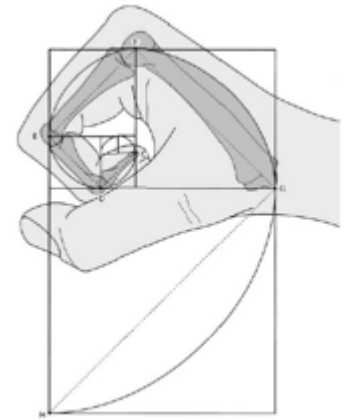
The pentagram, considered by many to be a mystical symbol, corresponds in many aspects to the Golden Section proportion. Note that the spacing within the pentagram has the 1.618 relationship on the sides, and in its center.



Bubble net feeding is a sophisticated hunting technique used by humpback whales. Working cooperatively, a group of whales dives beneath a school of fish and begins to swim in a spiral while releasing streams of bubbles from their blowholes. These rising bubbles form a cylindrical "net" that traps the fish in a concentrated area.



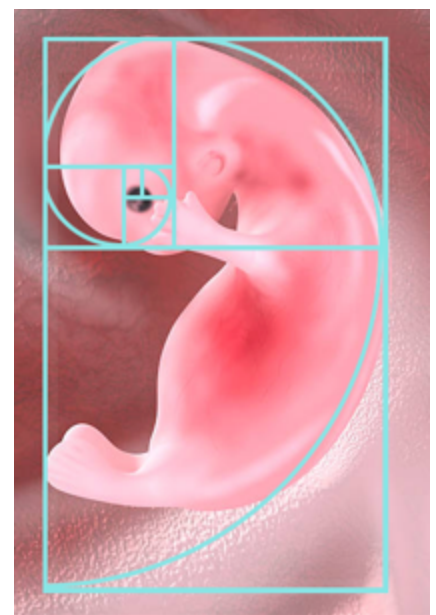
So, too, the human body exhibits the Golden Ratio in its design. Breaking down the proportions of the hand or other parts of the body, one can see that they are constructed around the design principle of the Golden Section.



The Fibonacci sequence can be found in Western music as well as that of other musical cultures. In Western music, there are thirteen total notes in an octave (from one C to the next). On the piano, there are 8 white keys and 5 black keys. Black keys are grouped as 2 and 3—all Fibonacci numbers. The

interval between the starting note and the fifth (a perfect fifth) is 5 notes. The interval between the starting note and the third note in a Minor sixth is 8:5 and a Major sixth is 5:3. Additionally, their frequency ratios closely approximate the Golden Section ratio (1.6 and 1.666, respectively.) It should be noted, however, that these correspondences are not expressions of nature's design but human culture, and as such it is hard to be certain whether they are there by design or coincidence, or dictated by something more deeply imbedded in our fundamental natures.

“Universal harmony comes about not by the celestial fiat of some King of Kings, but by the spontaneous cooperation of all beings in the universe ... not from the orders of a superior authority external to themselves, but from the fact that they were all parts in a hierarchy of wholes forming a cosmic pattern, and what they obeyed were the internal dictates of their own natures.”



Job

The idea that mathematics mirrors the mind of god is foundational to Alberti's assertion that beauty should be a central aspiration for Renaissance artists. But also invested in this notion is the corollary that if beauty was grounded in and inseparable from a divinely inspired mathematical harmony, then "beauty" must be itself divinely conceived and sourced. This parallels in profound ways the Taoist understanding of chi, the animating energy of the universe, but absent a personal God that initiates and then directs it. What remained unresolved and unchallenged by the medieval compromise that allowed the realm of the spiritual and the realm of the worldly to comeingle was the underlying orthodoxy that good and evil were primary forces and, like matter and antimatter, could not occupy the same space at the same time without obliterating one another.

However, there are some aspects of Western religious tradition that suggest support for the proposition that beauty is more than a palliative for human strife, but like chi, an underlying aspect of creation itself. The medieval Bible and subsequent European translations of the Old Testament said that god created the heavens and the earth, and on the sixth day, reflecting on his creation, he saw that it was "good," and that satisfied him. And so, on the seventh day, he rested. The idea of goodness is a moral concept and that god being inherently "good" he would of necessity bestow that goodness upon his creation. Of course, that creates the problem that if everything that god created was good, where did evil come from?

However, if we go back to an earlier tradition, back to the biblical story of Job, for example, we see that there can be another way of looking at creation that may actually integrate these elements. The story of Job is one of the most ancient texts in the Bible written about 6th-4th century BCE. Over the centuries, Job has become the primary biblical text for grappling with the question of why does a good god allow suffering? It is about a righteous man who faces extreme suffering and loss. In the biblical narrative, Job is a wealthy man who is struck by a series of devastating misfortunes: his possessions are taken away; his children die, and he is inflicted with painful sores. But despite this, Job refrains from questioning god.

But as his suffering intensifies, Job begins to openly lament his fate. He and his friends suggest that this suffering must be a result of some sin or wrongdoing, some evil that he has perpetrated. But Job maintains his innocence, and declares that he doesn't deserve such punishment. Over and above that, he feels entitled to an explanation from god as to why he has suffered so needlessly. God grants his request. And so Job stood before god "like a prince," Asserting his moral integrity he demanded an explanation from god as to why he endured such undeserved suffering. He asks God why the righteous suffer, and why evil all too often prospers. At one point, he even challenges god directly, asking why he was born only to suffer. Finally, he refuses to accept this suffering without some response from god. God,

chooses to answer Job, but not by explaining the reason for his suffering, but instead by asking him questions of his own.

*God asks, who is this whose ignorant words smear my design with darkness?
Stand up now like a man.
I will question you.
Please instruct me.
Where were you when I planned the Earth?
Tell me if you are so wise.
Do you know who took its dimensions, measuring its length with a cord?
What were its pillars built on?
Who laid down its cornerstone while the morning stars burst out singing and the
angels shouted for joy?^{xiv}*

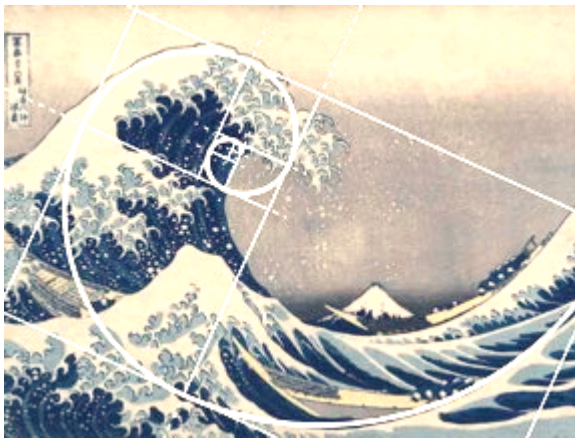
What is noteworthy about this twenty-five-hundred-year-old bit of poetry is that it includes within it the idea that mathematics is somehow integral to the understanding and creation of the universe, i.e., "Do you know who took its dimensions, measuring its length with a cord?" What god created was so transcendent that the angels shouted for joy and the morning stars burst out singing. What is the nature of the experience that might evoke such an ecstatic response? Traditional teachings would say it is because they found what god created to be "good" and the goodness of it made them joyful. But that isn't the only possible interpretation or even translation of the original story. Returning to the original text, British scholar and professor of Hebrew Bible and ancient religion Francesca Stavrakopoulou notes that the word "good" in ancient Hebrew is often associated with "good looking." And she further suggests the possibility that the interpreters of the ancient original text misunderstood that rather than being morally good or gracious what god created was "good looking" i.e., "beautiful". And so, when the angels and morning stars saw the transcendent beauty of creation that is what caused them to burst out singing, and the angels to shout for joy. That it would be intrinsically "good," would come as no surprise, let alone delight, if its creator was, by definition, incapable of evil.

This interpretation, then, offers the possibility within our Western spiritual tradition, to consider that aesthetic experience can become a means by which we can represent the world in its totality, without having to wrestle with the conflict of its moral condition, or the necessity for us to choose sides. This interpretation supports the contention that the material world, as Renaissance artists were allowed to depict it, was, in fact, intrinsically sacred, and as suggested by the text of Job, mathematics was a key to this understanding as well as the representation of it. That said, is there also a possibility that through art we might discover dots within our own modern traditions, dots that we might be able to connect in order to contemplate the universe as not in moral conflict, but in harmony, even though the totality of that harmony, given its association with personal suffering, challenges our ordinary comprehension.

This possibility is suggested in Hokusai's "The Great Wave off Kanagawa," one of the woodblock print series, "Thirty-Six Views of Mount Fuji" (1830–32) in which three fishing boats are being engulfed by a gigantic wave. The fishermen in the boats are at the mercy of the overwhelming destructive power of the sea. Hokusai represents this destructive power with a Golden Section spiral,



Ironically, for the fish below, the exquisite spiral of the humpback whales' bubble net is not experienced as "beautiful," but rather as an explosive killing field. At a coordinated moment, the whales surge upward through the bubble column with their mouths open, engulfing large quantities of prey. However, by using the Golden Section spiral in his design, Hokusai suggests that these destructive forces are but one aspect of a larger duality—of a deeper harmony.



Central to the image is a representation of Mt Fuji, Japan's most sacred mountain, and tied to Shinto and Buddhist beliefs. It is associated with immortality, harmony with nature, and the transcendence of the spiritual. The mountain's stillness contrasts with the chaos of the sea.³ Within such a universe, evil and goodness, creation and destruction, are not in moral opposition, but intrinsically entwined aspects—a yin and a yang—components of a larger totality. But that is a challenging proposition to embrace.

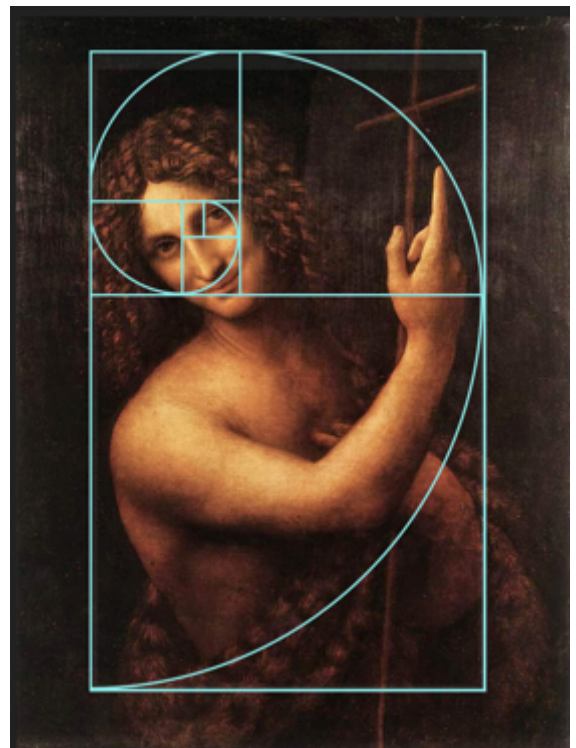
Without considerable spiritual struggle and evolution, as Job experienced standing before god, our intrinsic limitations all too often challenge our ability to distance ourselves sufficiently from our own suffering and mortality—and that of those we love—to view it as part of a larger harmony and experience it, other than through the polished shield of art, as "beautiful," or we risk, like gazing directly at the head of the Medusa, of being turned to stone.

³ It is interesting to note that in the 19th century, through contact with the Dutch, Japanese scholars developed a field known as Rangaku, meaning "Dutch learning." This included studies in anatomy, physics, and astronomy as well as exposure to Western-style perspective. Hokusai's understanding of Western perspective was subtly used to create a sense of depth through scale and overlapping forms.

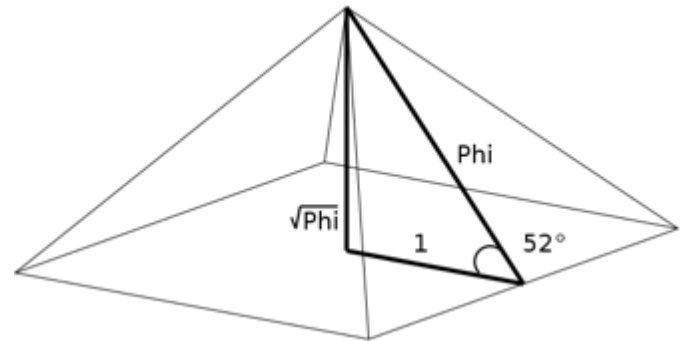
Art



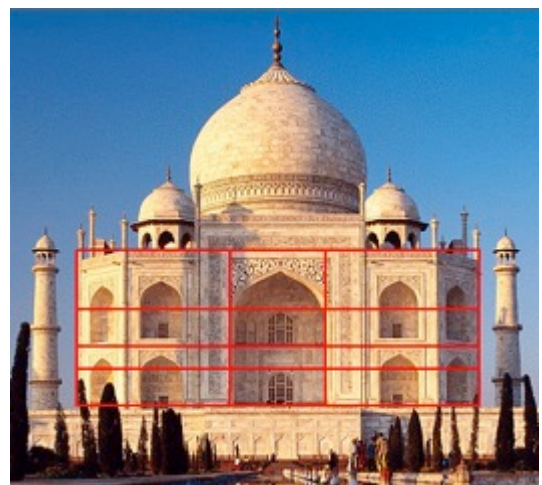
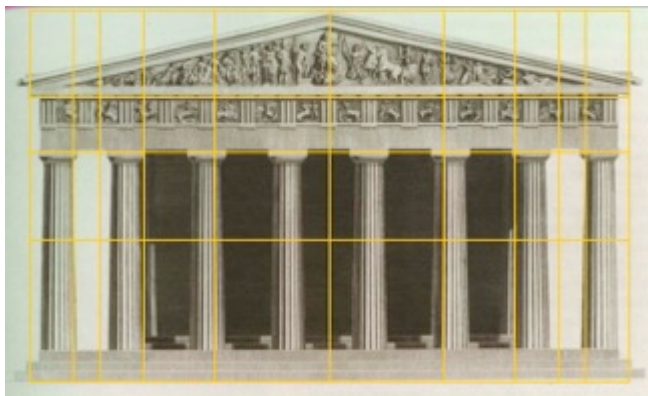
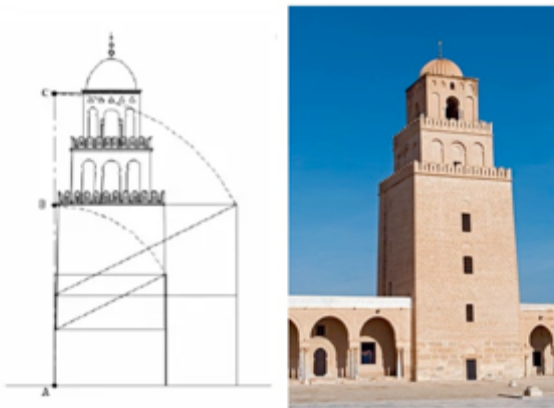
Twelfth century Taoist Chinese tradition saw art as a vehicle for expressing feelings concerning the mysteries of the universe. So, too, in the Renaissance where art was a part of an integrated worldview, one that served as a bridge between the underlying medieval conflicts of sacred and profane. This worldview found expression in the works of many Renaissance artists such as Raphael, Michelangelo and Leonardo da Vinci, who incorporated the concept of transcendent spirituality, beauty, and the harmony inherent in mathematical proportion into their works. Principal among these proportions was the Golden Ratio.



The Italians of the fifteenth century were not the first to recognize the aesthetic power of the Golden Ratio. The Pyramids at Giza, for example, are to within a fraction of a degree constructed to the Golden Section ratio—the vertical being the square root of Phi and the descending sides of the pyramid, Phi.



The Great Mosque in Kairouran, which was constructed in 670 CE, is one of the oldest and most historically significant mosques in the Islamic world. Its design is organized around the Golden Section. So, too, are the Parthenon in ancient Greece and the Taj Mahal in India.



Contemporary Western architects also frequently adopted the Golden Ratio in designing their commissions. The Guggenheim Museum utilizes a subdivided Golden Section and square, The United Nations building is three Golden Sections placed one on top of the other. In designing the UN, Le Corbusier used the proportion for window and curtain wall configurations, as well as the layout of the front entrance, the positioning of columns, doors, and frames, and interior floor plans

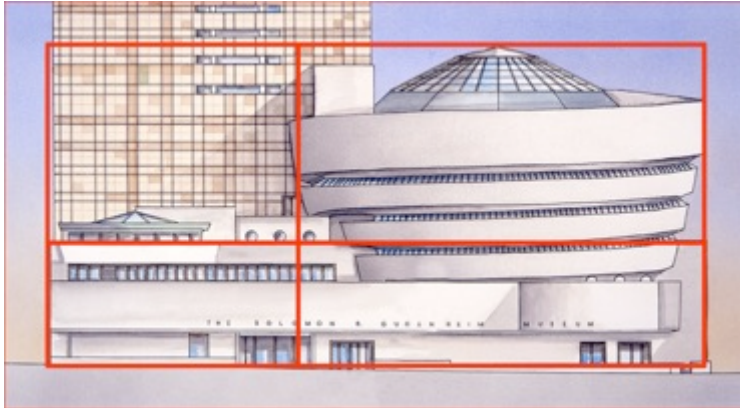
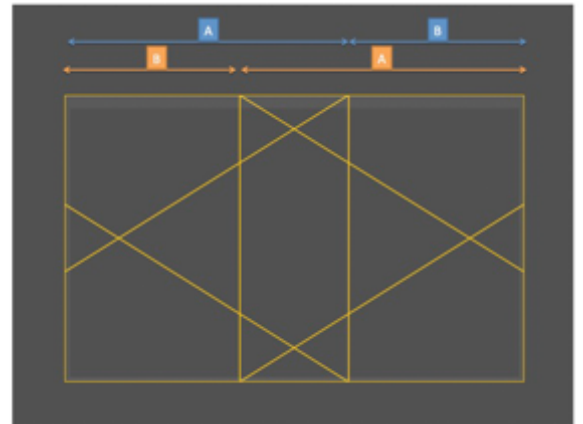


Figure 13 Leonardo da Vinci A Deluge, c. 1517

Even if not informing the composition of Song dynasty landscape painters as it did for Western artists and architects, they nevertheless saw in the equiangular spiral a means of representing a fundamental force of nature. Chen Rong's "Nine Dragon Scroll," and Hokusai's famous woodblock print of a wave, both contain the design of the equiangular spiral. Leonardo, too, saw within his work that the equiangular spiral could be expressive of the intrinsic forces of nature.



Across the centuries, many cultures incorporated the Golden Ratio not only into their grand designs, but into their practical, day-to-day objects as well, such as Middle Eastern saddlebags.

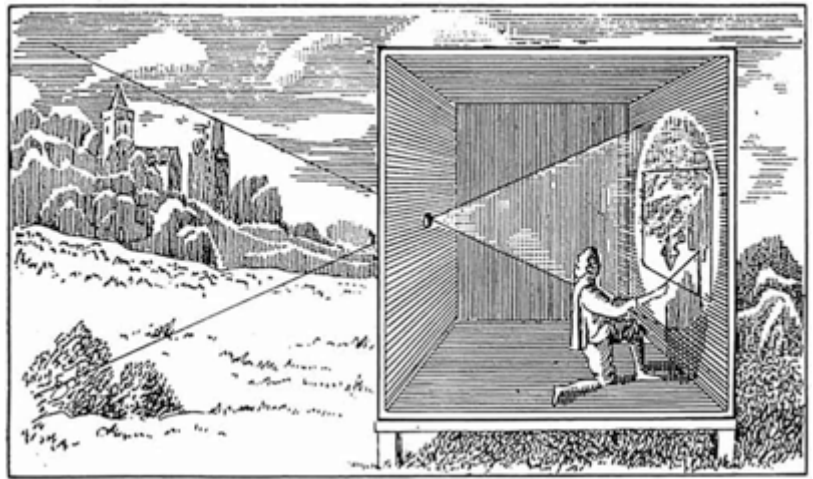


Whether they did it purposefully or intuitively, we can't tell. But the saddlebag has a Golden Ratio design structure very similar to the one that Michelangelo used on the Sistine Ceiling.



Photography

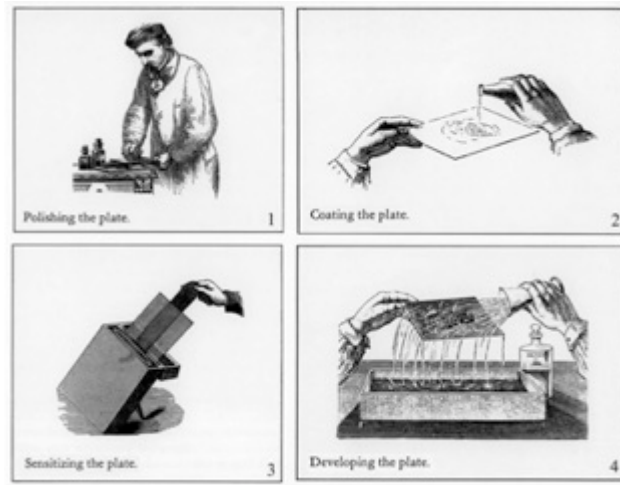
If you recall, the *camera obscura* was the Renaissance instrument that allowed an artist to represent, with mathematical consistency, the three-dimensional world on a two-dimensional surface. Mathematics bridged the conflicting principles of sacred and profane, as it was considered to reflect the mind of God. As such, it served the ends of the



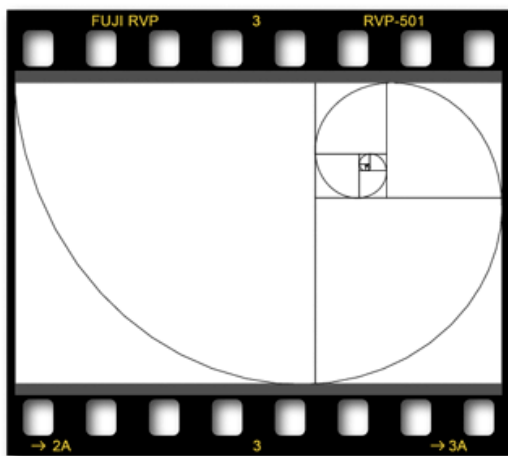
Church and the Italian middle class, allowing the worldly to be sufficiently sacred to be embraced without guilt or punishment. It was also foundational to the overarching concept of beauty advocated by Alberti. The camera's intrinsic ability to create that mathematics-based imagery automatically made it a valued tool for artists to use in the creation of two-dimensional spaces. Well into the nineteenth century, artists continued to use the camera, copying the image that they saw on the ground glass. Reducing the *camera obscura* from an actual room or a large object to something small and portable, paved the way for photography to become a new modality, one that would allow an artist to create such imagery easily, though now not by hand, but through chemical and mechanical processes..



That process was initially based on the light sensitivity of silver salts.



Over the decades cameras became increasingly portable, automated, and easier to use.



What is noteworthy is that the format of the 35-millimeter camera, which was the workhorse of so much of twentieth-century photography and still much in use today by photographers returning to film, is virtually the Golden Section, a decision that although based on practical design necessities, not aesthetics, is for the purposes of this discussion a curious bit of serendipity.

So, how might the Taoist principles we have considered find expression in something as seemingly non-Taoist as photography? As noted earlier, in Taoism, the realm of spirit was one with the realm of matter—a concept that found expression in the arts of China. Similarly, we saw that the Renaissance solution to the tension between these two realms was to bridge them through the intertwining of mathematics, aesthetic harmony, and a sense of transcendent beauty. Though these developments arose in radically different cultural contexts, they reveal a surprising congruity in their approaches to the natural world and the world of the spirit.

In Taoism, as in the Renaissance, we also see a search for the precise points where things fit together to form a larger, spiritual, and universal harmony. And in the Renaissance, they had a similar notion where beauty and proportion established the precise fitting together, as Alberti said, in which, nothing could be added, diminished, or altered, but for the worse. Additionally, in Taoism, there is a notion of spontaneity and simplicity in composition, aimed to convey the beauty of the natural world. In Western art, the adoption of the Golden Section served a similar function.

Expression of Taoist Worldview in Chinese Painting

- Tao, the Way—the basic Chinese belief in an order and harmony in nature.
- Seeking all the exact places where things precisely fit together.
- Spontaneity and simplicity in composition aimed to convey the unadorned beauty of the natural world.

Western Expression of Taoist Principles

- *Phi in Nature*
- *Renaissance Beauty/Proportion*
- *Golden Section in Art*

The question then, given the *camera obscura*'s central role in this evolution, is whether this congruity opens the door to the possibility that photography might serve as a Western modality for expressing Taoist principles. Might a photographer precisely because photography was rooted in the Renaissance reconciliation of spirit and matter, also reflect these principles both in spirit and in practice? And being, like Chinese landscape painting, a visual language, might photography also serve as a vehicle for our most profound thoughts and feelings about the mystery of the universe, of religion, and of philosophy, as art did in twelfth-century China? To that end, there are a number of structural parallels in photography one might draw that lend it to being viewed through a Taoist lens. (No pun intended.) Photography, like landscape painting, is a visual language. Where Song Dynasty painters used ink and silk, the

photographer uses light, the moment and design to capture the essence and spirit of things.

Viewed from a slightly different perspective, some of the traditional dots that define photography might resonate with a Taoist worldview.

- **Light** = chi as it pertains to the animating force of the subject. As Jing Ho observed, "If a painting has only shape and no spirit, it is a painting in form but not in essence." He believed that chi must flow from nature, be absorbed by the artist, and then be channeled into the painting.
- **Composition** = the fitting together of things, i.e., "the harmony of all the Parts in whatsoever Subject it appears, fitted together with such Proportion and Connection, that nothing could be added, diminished or altered but for the Worse."
- **Time/moment of exposure** = spontaneity
- **Black and white** (the presence and absence of light) = yin and yang
- **Picture taking** = yin—the light energy is received to create a "negative", which contains within it the intent of the final print—"Previsualization," as Ansel Adams referred to it.
- **Darkroom Printing** = yang—the light energy is projected out of the enlarger creating a "positive."⁴ Contained within the negative is the essence of the original "seeing" of the light projected by the subject that created the negative.

However, these are just external structural components of photography as a visual language, its grammar, if you will, and these components need to be fully mastered if they are to be employed spontaneously. Similarly, in learning a meditative discipline such as tai chi, one first studies the postures as separate components of the total form. But once mastered, there are no longer identifiable postures, only the continuous flow of movement and energy. This idea is expressed by the Tai Chi master Cheng Man-ch'ing's in his *Songs of the Thirteen Postures*. In these writings, he explains the relationship between the continuity of movement and the integration of mind and form in the practice of Tai Chi. "To withdraw is then to release, to release is to withdraw. In discontinuity there is still continuity." Discontinuity refers to the physical form—changes in posture or phases of movement. Continuity refers to the mind (yi)—the internal, guiding intent that remains seamless even when the body shifts. "Discontinuity... is like a broken lotus root with the fibers still connected. In Chinese calligraphy the stroke may be broken, but the mind is still connected."^{xv}

⁴ *The enlarger essentially identical to the camera in that the light passes through the film, but here, not entering, but exiting through the lens to expose an emulsion-coated piece of paper.*

The Artist's Engagement

Taoist artists were not involved in creating physical records of worldly phenomena, but in creating a contemplative space for both the practitioner and the viewer. The viewer's experience of this art, as well as its creator's, requires meditative engagement.

The son of Guo Xi (c. 1020–1090), a Northern Song's master, recounts his father's preparation for painting. "On days when he was going to paint, he would seat himself at a clean table, by a bright window, burning incense to right and left. He would choose the finest brushes, the most exquisite ink; wash his hands, and clean the ink-stone, as though he were expecting a visitor of rank. He waited until his mind was calm and undisturbed, and then began." ^{xvi}

In Taoism, there was also an emphasis on the concept of chi or life energy that, according to Guo Xi, resides in the subject. Mountains, he would say, breathe with chi. Jing Hao, in his theoretical treatise *Bifa Ji* ("Notes on Brushwork"), denotes "Spirit (chi)" as the foremost element among his Six Essentials of painting. Jing Hao was a pivotal figure in early Chinese landscape painting and painting theory, active during the late Tang (618–907) and early Five Dynasties period (907–960)—just before the Song Dynasty. Though not technically a Song painter himself, his influence deeply shaped Northern Song landscape aesthetics, especially through his theoretical treatise, *Bifa Ji*.

Jing Hao's Six Essentials of Painting:

- **Chi – Spirit:** the inner vitality or life force of the subject and the artist
- **Yun – Rhythm/Resonance:** the harmonious movement and flow of energy
- **Si – Thought/Conception:** intellectual and emotional intention
- **Jing – Scenery:** the external appearance or landscape form
- **Bi – Brush:** brush technique
- **Mo – Ink:** the use of ink tone and texture

These principles reflected Core Taoist Ideas

- **Harmony with nature** – "Man follows the Earth, the Earth follows Heaven...")
- **Emptiness and void** – use of negative space to suggest the unseen or ineffable.
- **Non-action** (wu wei): the natural, unforced flow of brushwork.
- **Yin-yang balance:** contrasts between peaks and mists, light and dark, motion and stillness.

On Reconnecting the Dots

In “An Essay Concerning Human Understanding” (1689), John Locke writes, “It is evident the mind knows not things immediately, but only by the intervention of the ideas it has of them. Our knowledge, therefore, is real only so far as there is conformity between our ideas and the reality of things. But what shall be here the criterion? How shall the mind, when it perceives nothing but its own ideas, know that they agree with things themselves?” Locke’s “ideas” are exclusively formed from, and subsequently limited by, the sensory input we receive from the world. When combined to create complex ideas, they form the basis for subsequent action. Put another way, these ideas are the dots of the world that we connect, based on our own natures, experience, education, and sadly, all too often, simply our own wish for it to be so.⁵

The Taoist view, on the other hand, is to endeavor to experience the world in the absence of either ideas or dots, as a continuity of possibilities. In modern physics, a congruent vision of the most fundamental aspects of reality is taking on increasing currency. For example, electrons are not understood as solid, self-contained particles in the classical sense, but rather as quantum entities—expressions of probability and potential. While early models imagined electrons as tiny objects orbiting the nucleus like planets around the sun, quantum mechanics has replaced this image with the electron cloud. This cloud is not a physical mist but a mathematical description—a wave function—that defines the probability of finding the electron in a particular location. Until an interaction occurs, the electron does not occupy a definite position; it exists instead as a range of possibilities, a field of potential.

In the language of Tao, the electron is not an object, but a quiet unfolding of the Tao—the great Way. Like water following its riverbed, it does not resist, nor has it intent to be manifest. It remains unformed in a state of movement until the moment demands it take shape. The “electron” is merely the resonance of a deeper harmony, a subtle manifestation of potential that will become actualized through relationship. This vision of the world finds expression in Taoist-inspired arts. The Song Dynasty landscape painter Guo Xi, in “The Lofty Message of Forest and Streams” said, “The clouds and the vapours of real landscapes are not the same at the four seasons. In spring they are light and diffused, in summer rich and dense, in autumn scattered and thin, in winter dark and solitary. When such effects can be seen in pictures, the clouds and vapours have an air of life.”

⁵ *Reality itself, Freud says in Civilization and Its Discontents, is often perceived as unbearable, "so that one must break off all relations with it if one is to be in any way happy. The hermit turns his back on the world and will have no truck with it. But one can do more than that; one can try to recreate the world, to build upon its stead another world in which its most unbearable features are eliminated and replaced by others that are in conformity with one's wishes."*

The Personal Inquiry

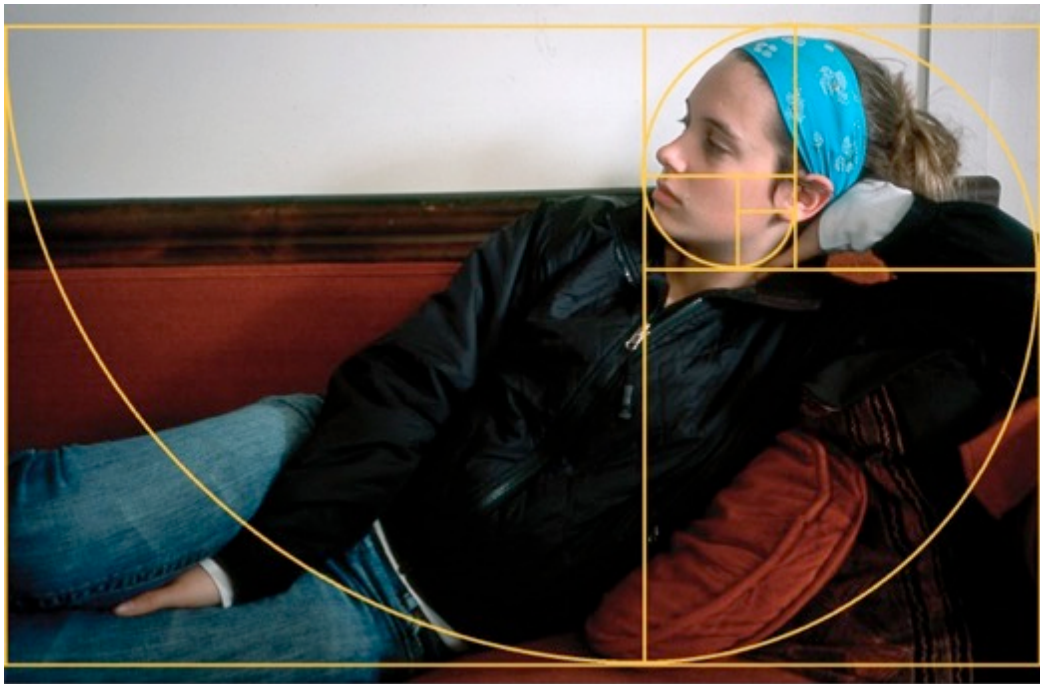
It goes without saying that there is no program setting on a digital camera, no pre-written algorithm for enlightenment or heightened spiritual, or aesthetic awareness. That is entirely sourced at the deepest center of the practitioner and here, too, reached only after years of study and practice of any of a variety of disciplines. Photography is simply another medium of expression, like clay or ink or brush or one's body. This discussion is not conceived to be a set of instructions, or a how-to-manual, but rather a suggestion for a possible series of dots that when connected might offer a path to be followed to bring the expression of Taoist principles to the Western art of photography. Obviously, the simple appearance of the proportions of the Golden Section doesn't make the camera's imagery *ipso facto* such an expression. That requires a specific kind of relationship to, and engagement with the world that transcends any given modality. There are, of course, techniques and skills—photographic and meditative—that can be utilized to chart the course of such a spiritual journey, but those specifics would be the subjects of a separate discussion, inquiry, and study. This present discussion is merely to ask whether photography might be one of the dots that could lead a Western practitioner along a path to a Taoist engagement with the world.

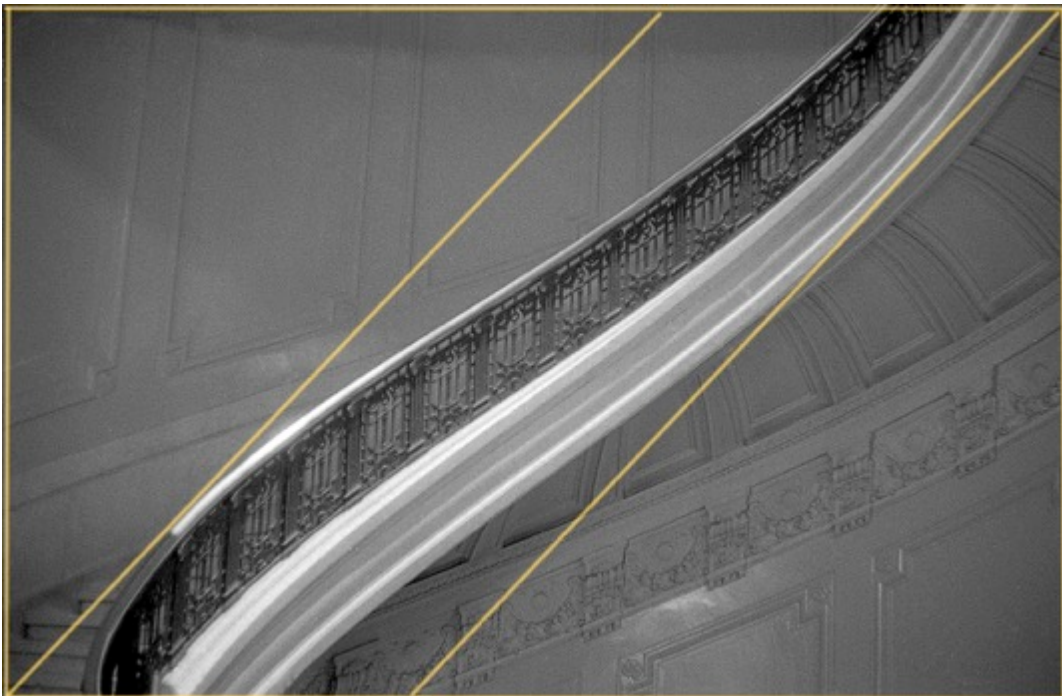
At the outset of the discussion, the problem of language was raised with regard to communicating a Taoist experience of the world. Fritjof Capra summarized the challenge: "We have to deal with the question of how we can make any comparison at all between an exact science, expressed in the highly sophisticated language of modern mathematics, and spiritual disciplines, which are mainly based on meditation and insist on the fact that their insights cannot be communicated verbally." That cautionary note notwithstanding, I have considered the question of Tao and photography with my "left brain" for many decades, the result of which is the forgoing discussion. But to do that I had, as T. D Suzuki noted, to use language to discuss matters that are inner experiences and which by their very nature transcend linguistics. As a consequence, the result can only be wanting. However, as Mai-mai Sze observed, artists aspire to "not only nourish that part of Heaven in themselves but, possessing it, are capable of revealing it in their conduct and activity"—that is, through their art. And so, as an artist, I have also been similarly engaged with the question using my right brain, employing not a verbal language, but rather the language of art. In that spirit, I offer the following selection of images as a possible example of what my modest effort at reconnecting some of the dots of our contemporary world might look like put into practice, with the caveat that the results draw no conclusions, but are merely the results of my ongoing personal inquiry.

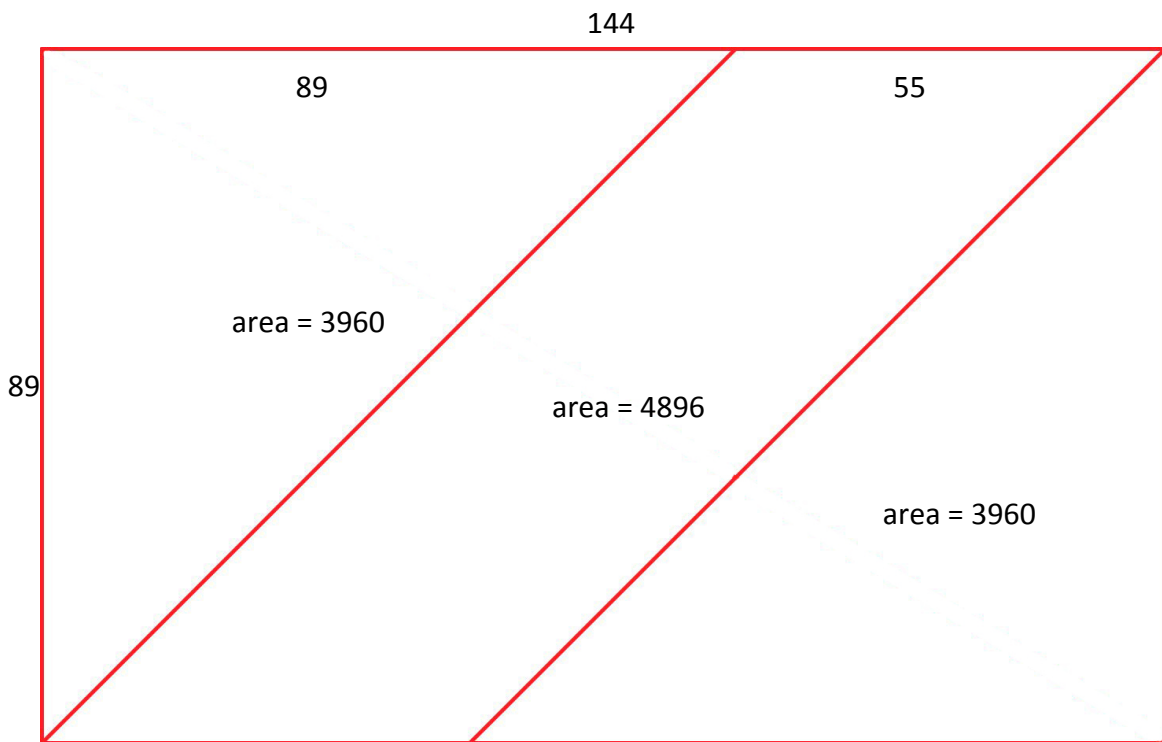
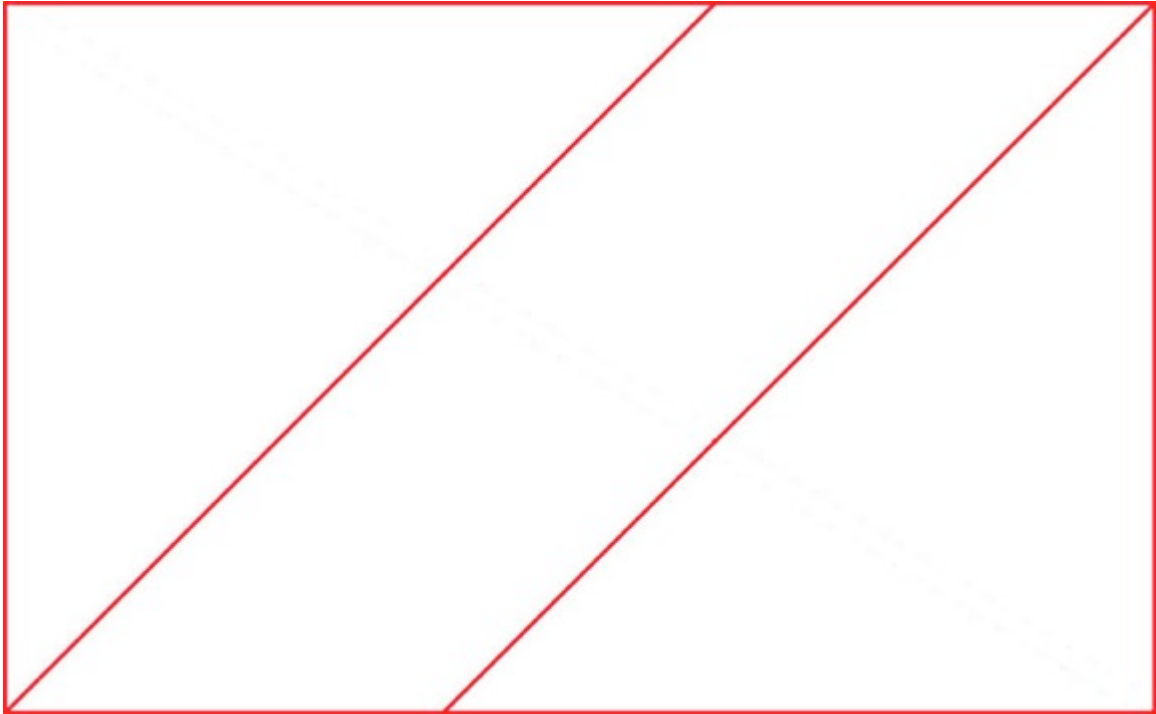
The Images*

* The Golden Section overlays that accompany the following images were created to help deconstruct them in light of the foregoing discussion and played no part in the creation of the original photograph.





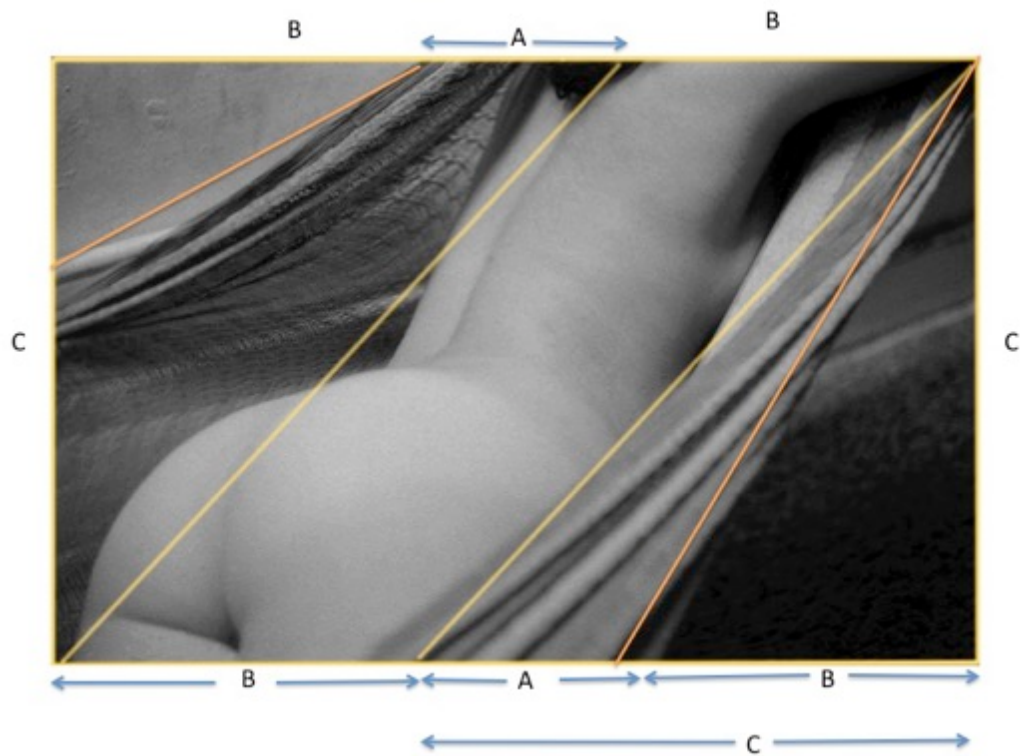


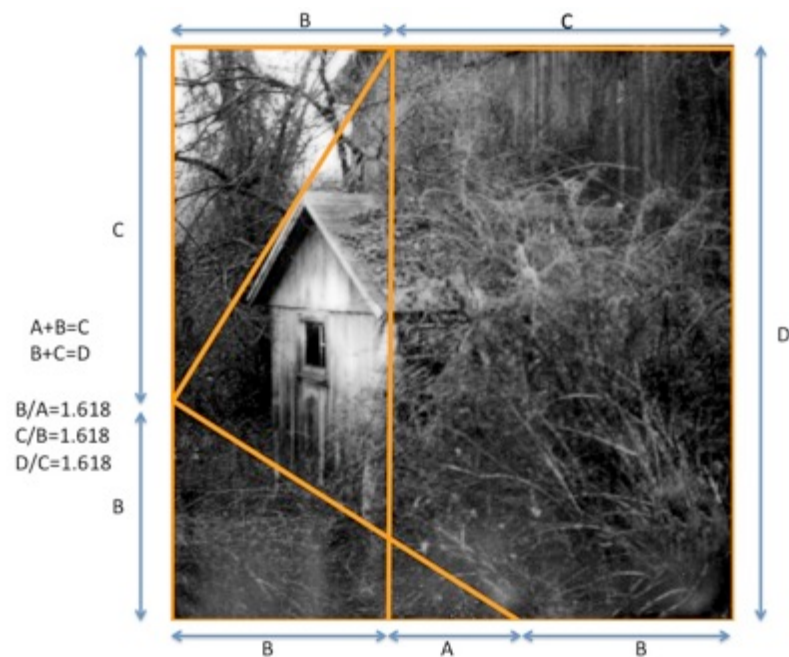


$$\frac{3960 + 3960}{4896} = 1.618$$

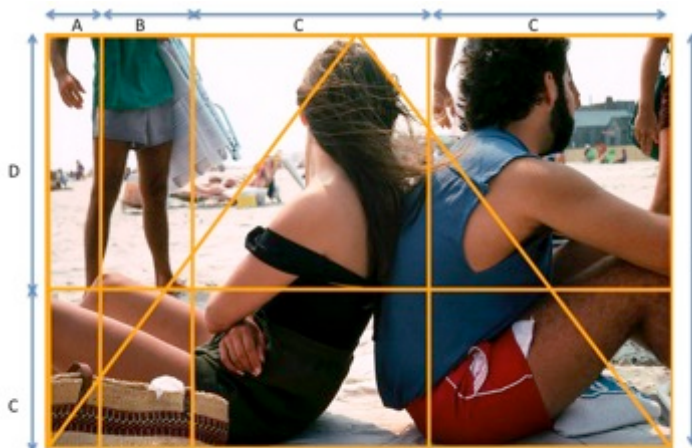
Total area = 12,816

$$\frac{12,816}{7921} = 1.618$$



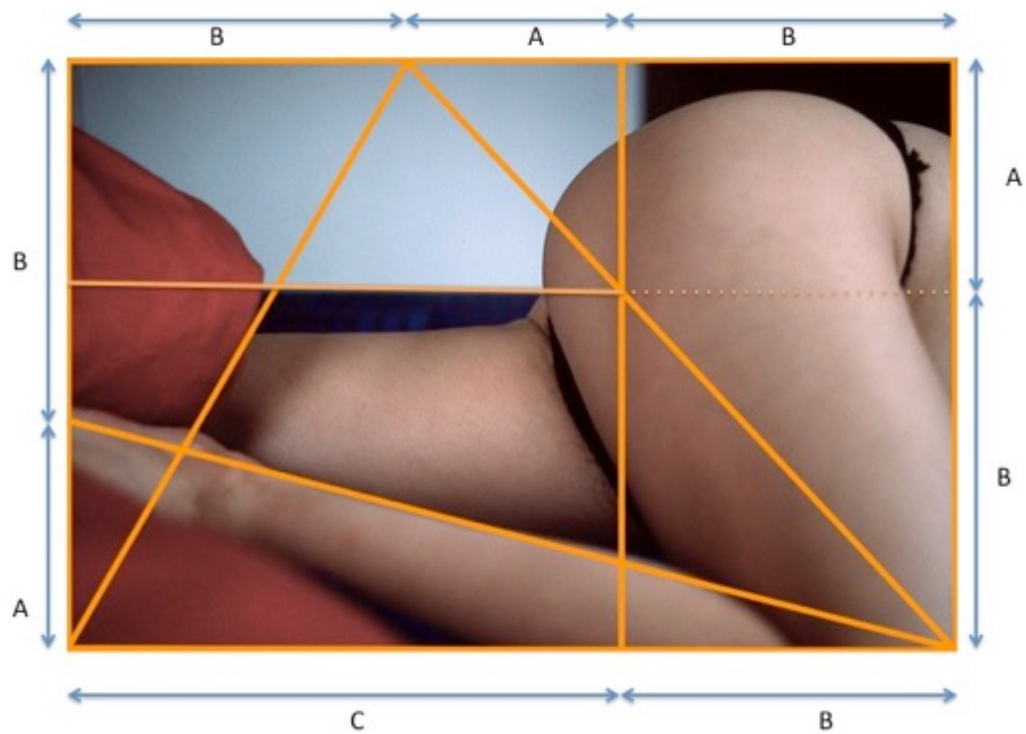


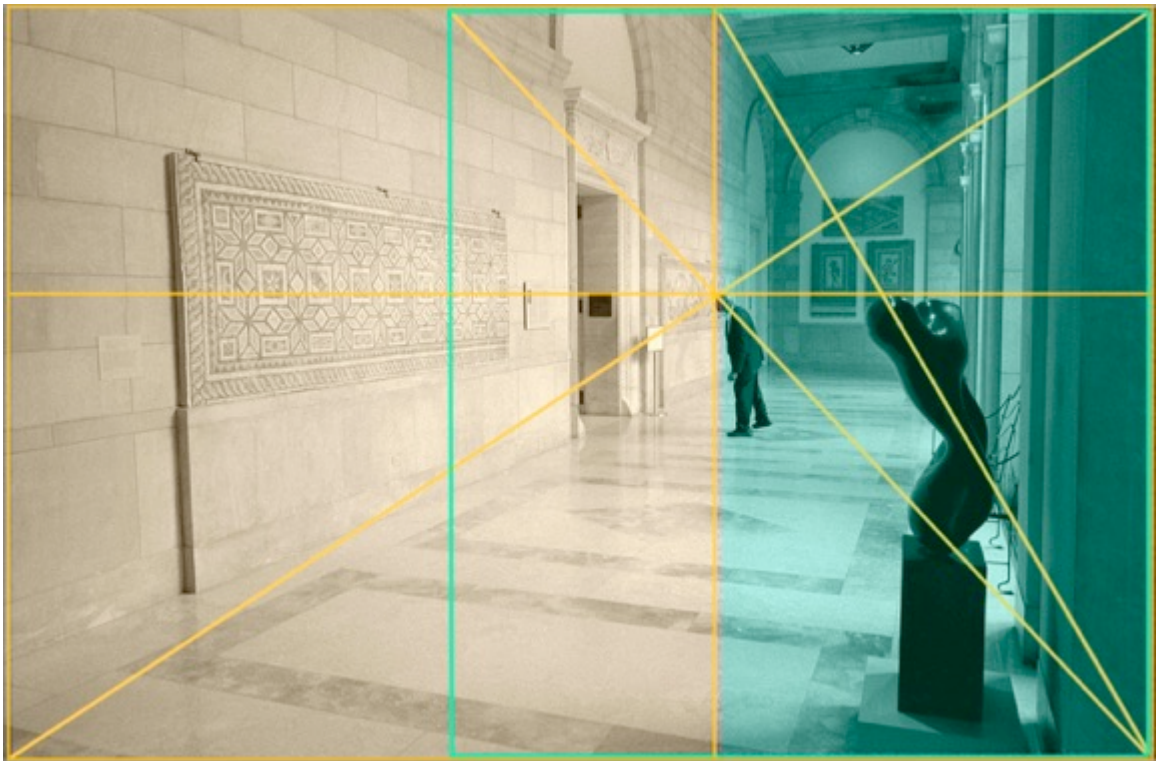


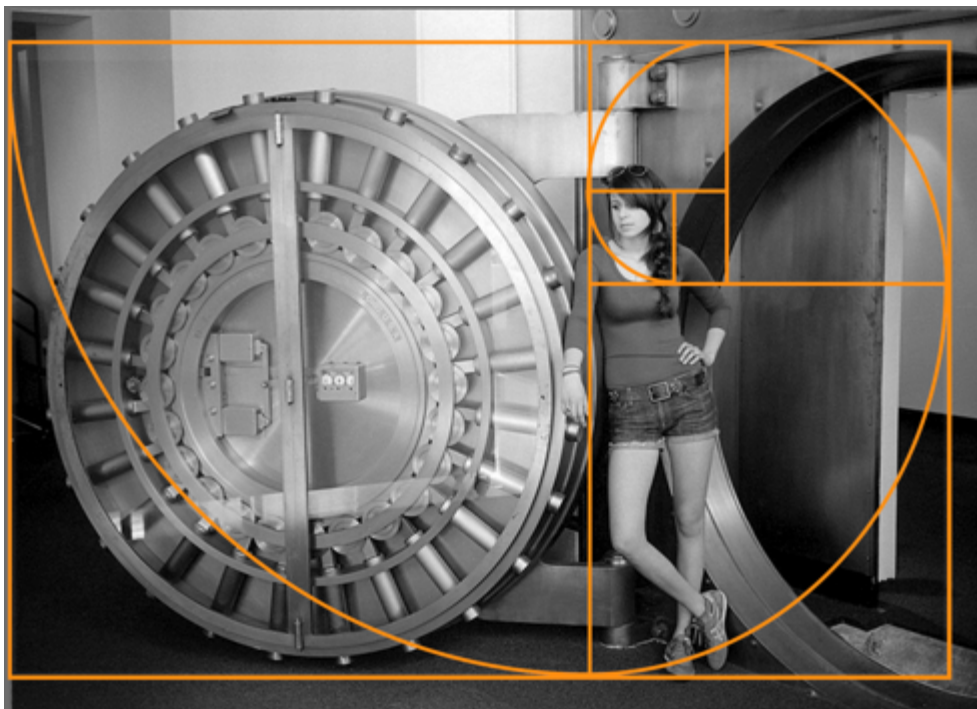


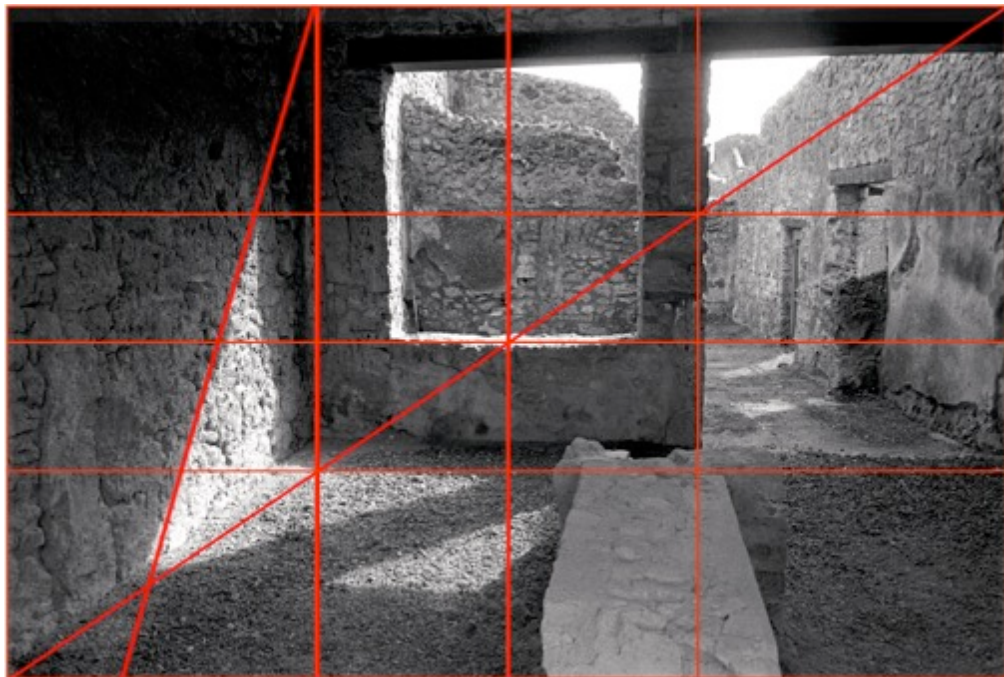
$$\begin{aligned}
 A+B &= C & B/A &= 1.618 & D/C &= 1.618 \\
 B+C &= D & C/B &= 1.618 & E/D &= 1.618 \\
 C+D &= E
 \end{aligned}$$











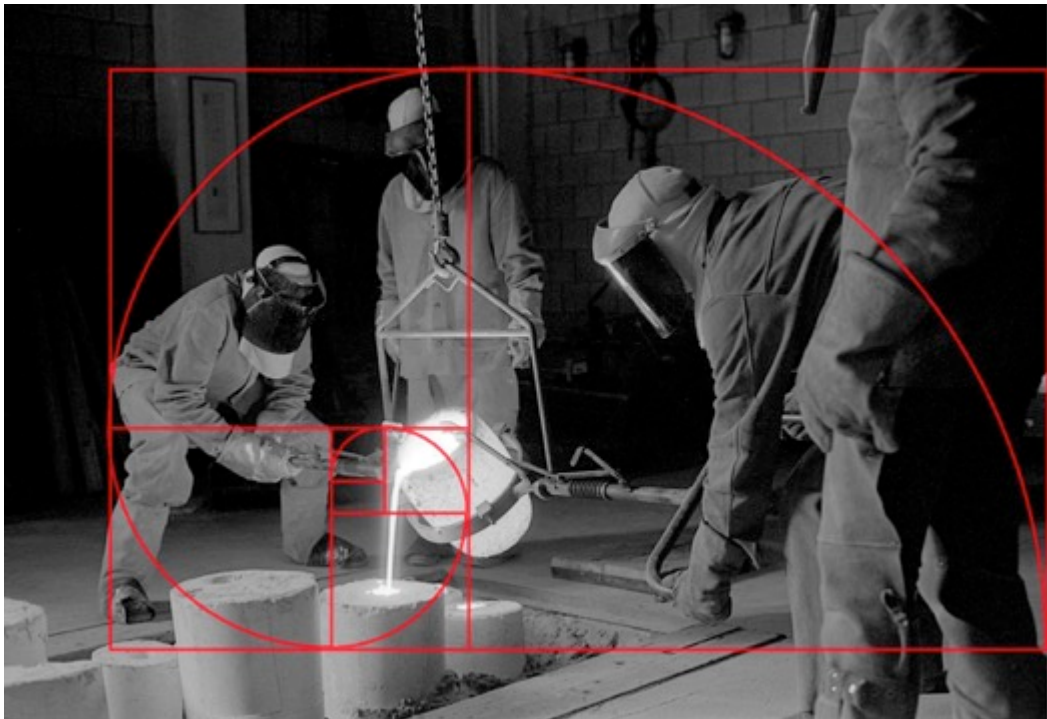


















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- ⁱ **Needham, Joseph.** *Science and Civilisation in China: Volume 2, History of Scientific Thought.* Cambridge University Press, 1956, p. 327.
- ⁱⁱ **Capra, Fritjof.** *The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism.* Shambhala Publications, 1975, p. 17
- ⁱⁱⁱ **Suzuki, D. T.** *Zen and Japanese Culture.* Princeton University Press, 1959.
- ^{iv} **Heisenberg, Werner.** *Physics and Philosophy: The Revolution in Modern Science.* Harper & Row, 1958.
- ^v **Rowley, George.** 1947. *Principles of Chinese Painting.* Princeton: Princeton University Press.
- ^{vi} **Sze, Mai-mai.** 1959. *The Way of Chinese Painting: Its Ideas and Technique; With Selections from the Seventeenth-Century Mustard Seed Garden Manual of Painting.* New York: Vintage Books.
- ^{vii} **Berlin, Isaiah.** *Against the Current: Essays in the History of Ideas.* Edited by Henry Hardy. Princeton: Princeton University Press, 1981 (or 1979).
- ^{viii} **Rowley, op. cit.,**
- ^{ix} **Alberti, Leon Battista.** 1452. *De re aedificatoria [On the Art of Building in Ten Books].* Translated by Joseph Rykwert, Robert Tavernor, and Neil Leach. Cambridge, MA: MIT Press, 1988.
- ^x **Leonardo da Vinci.** *The Notebooks of Leonardo da Vinci,* edited by Jean Paul Richter, Dover Publications, 1970, Vol. 2, §865, pp. 171–172.
- ^{xi} **Joseph Needham, Op.cit.,** p. 327.
- ^{xii} **Alberti, Leon Battista.** *On Painting (De Pictura),* in *Harmony and Proportion: Alberti – Architectural Proportions,* AboutScotland Arts Pages (1997),
- ^{xiii} **Euclid, Elements,** Book VI, Definition 3, in *Euclid: The Mathematical Works of Euclid* (ed. Sir Thomas L. Heath; Cambridge, MA: Loeb Classical Library, 1939), 511.
- ^{xiv} **Mitchell, Stephen.** *The Book of Job.* Harper Perennial, 1992.
- ^{xv} **Cheng Man-ch'ing.** *Cheng Tzu's Thirteen Treatises on T'ai-Chi Ch'uan.* Translated by Benjamin Pang-Jeng Lo and Martin Inn. Berkeley: North Atlantic Books
- ^{xv} **Guo Xi.** *Lofty Record of Forests and Streams (Linguan Gaozhi).* Translated by Susan Bush, preface by Guo Si, *Early Chinese Texts on Painting,* edited by Susan Bush and Hsio-yen Shih, Harvard University Press, 1985, p. 149