

Lo Shu, Window to the World of the Wondrous: Bragdon, Lissitzky, Malevich

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Introduction

The architectural imagination is a transcendental space of four-dimensions. When lost in thought, when vision is turned inward and becomes blind to the world outside, one's entire body—intellect, soul, and sexuality—transcends the rational and approaches a meditative state where intellectuality, emotionality, and sexuality are merged into an inseparable unity. When architects design, they conceptualize: a type of spatial visualization that takes ideas as three-dimensional constructs, and continuously combines and recombines them in a non-linear, non-rational thought process where time is suspended in the inner landscape of the mind's eye. The mental movement or rotation of objects is a dreamlike, analogical process—a Tantric dimension of inward contemplation—that provides visual-spatial insights for the architectural imagination, opening a window to the world of the wondrous. To follow will be an investigation into the relationship between the fourth dimension and the architectural imagination: the mechanism behind an architect's ability to imagine the spatial relationships possible through the mental rotation and spatial transformation of two-dimensional objects, such as the transformation of plan, section and elevation to occupiable architectural space, and then to imagine walking through the resultant three-dimensionality.

The Magic of the Square

[Magic squares] are conspicuous instances of the intrinsic harmony of number, and as such serve as an interpreter to man of that cosmic order which permeates all existence.

Claude Bragdon, *The New Image*, "Man: the Magic Square"¹

At the turn of the century there was a surprising interest in the occult and eastern spirituality that oftentimes was expressed in mathematical terms in order to make it scientific, and therefore rational, and in so doing to make it palatable to those less inclined to venture into the unknown. One world-wide cultural pastime was mathematical recreations, which took many different forms, but of interest to the following discussion is the magic square. A magic square can be a numerical acrostic that takes the form of a square broken into smaller squares. Each square is given a number from one to the total number of squares within the magic square in such a way that all horizontal, vertical and diagonal sums equal the same number. The magic square was a parlor game of mathematical recreation with origins from antiquity whose forgotten meaning has to do with the iconology of (re)creation. As a way of gaining insight into the mechanism of the architectural imagination, the square will be investigated as an iconographic geometric form present in the work of the American architect Claude Bragdon (1866-1846), whose books on the fourth dimension in turn likely influenced the work of the Russian Suprematists, El Lissitzky (1890-1941) and Kazimir Malevich (1878-1935).

During his lifetime, Bragdon wrote prolifically and was published extensively in magazines and journals. He authored and published over seventeen books on architectural theory, esotericism, the fourth dimension, and yoga. These books were all well-read by the average American, some were translated into other languages and distributed abroad. He was the architect for many residences in the Rochester, New York area, which date primarily between the years 1896 to 1917, as well as many public and secular buildings such as the Livingston County Courthouse (1899), the Evangelical Christian Church, the First Universalist Church (1907), the Bevier Memorial Building (1911), the Rochester Chamber of Commerce and the New York Central Passenger Railway Station (1913). Bragdon has many extant buildings in the Rochester area that are readily accessible and most of his books, personal correspondence and notes are available to researchers at the University of Rochester Library.

In spite of his apparent popularity, he was written out of the architectural history books and is unknown in most architectural circles. He is mentioned tangentially in books on the occult such as *The Harmonious Circle* (1980) by James Webb and has been positioned by Linda Dalrymple Henderson, in her articles and books such as *The Fourth Dimension and Non-Euclidean Geometry in Modern Art* (1983), and Patricia Railing, in her book *From Science to Systems of Art* (1989), as

¹ Claude Bragdon. *The New Image* (New York: Alfred A. Knopf, 1928), 165. In future footnotes to be referred to as *NI*.

having made a significant contribution to modern art through the influence of his publications on the fourth dimension and higher space. My initial attribution for Bragdon's exclusion from the architectural history books was to his being marginalized because of his involvement in the esoteric and the occult, however, it seems that it most probably had more to do with being black-listed by the most "powerful man in Rochester," George Eastman, the founder of Eastman-Kodak.

George Eastman had engaged Bragdon to design the Rochester Chamber of Commerce, during which time the two of them entertained each other socially and came to know each other well. The large hall on the second floor was a fairly simple room defined by square column bays. In the ceiling there were ventilating registers (figure 1) in each of the four corners of each column bay. Bragdon had intended the plastered, molded ceiling to be painted with gold and color. Eastman had approved the design earlier, but later changed his mind when the bids came in at \$5,000 to \$20,000. Bragdon argued that he would have designed the ceiling differently had he known it would remain without color and refused to work again for George Eastman. Although it has not been documented that Bragdon had been black-listed, he did lament in a letter to a friend in 1937 that "I had the job of building the new Genesee Valley Club of which I was the architect, and whose work I had always done. He, the president of the club, offered to give them \$50,000 if they would not have me for their architect. They accepted . . . because they needed the money." No significant Rochester commissions came his way after this incident. A few years later his wife died and he left Rochester for New York City in 1923 at the age of fifty-seven,² where he lived out the rest of his years as a theatre set designer and continued to write books.



DESIGN FOR A VENTILATING REGISTER DERIVED FROM THE MAGIC LINE OF THE MAGIC SQUARE OF 3

figure 1. Claude Bragdon, *Frozen Fountain*, 1932

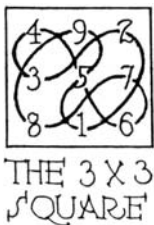


figure 2. Claude Bragdon, *Frozen Fountain*, 1932

The Rochester Chamber of Commerce is important in the context of this paper due to the design of the ventilating register and the importance Bragdon invested in the color and gilding of the ceiling. According to Bragdon in his book *The Frozen Fountain*, the design was based on the "magic path" of the magic square of three.³ The magic path is derived by connecting the numbers of the magic square in sequence with a line (figure 2). Bragdon had developed several methods of generating ornament that were based on mathematical principles, generally deriving his ornamental patterns from either the magic path of the magic square, the platonic solids, or the hyperspace geometry of four dimensions. He published these methods of designing ornament in his book *Projective Ornament* of 1915. He believed that through the use of mathematics he had the possibility of generating a potent symbolism capable of envisaging concepts beyond the reach of human sense perception,⁴ a subliminal psychological approach that could reach into the depths of consciousness by tapping into archetypal, cosmic forms. His intention was to conceive of a style of ornament that would be perceived as a universally understood symbology, which could "teach as eloquently as the spoken word."⁵

By being based on the magic square of three, Bragdon's invention of the ornamental design for the Rochester Chamber of Commerce ventilating register is an example of how something "new" can have very old, in not ancient, roots. The psychologist Carl G. Jung would refer to the square as an archetypal form hidden in the subconscious that resurfaces in the consciousness, which seems to be an aboriginal, innate and/or inherited shape of the human mind. According to Jung, these symbolic images, or archetypes, are without known origin and can be found cross-culturally where transmission by direct descent or through migration would not be possible.⁶ On the contrary, there are symbols that have been passed down through the millenia that resurface every once in a while in seemingly disparate places, separated by continents and cultures—however these symbols are indeed related even if on the surface there seems to be no apparent connection because they are based on an iconology that transcends geographic and political boundaries.⁷



figure 3. Yin Yang

² Erville Costa, "Claude F. Bragdon, Architect, Stage Designer, and Mystic," *Rochester History* XXIX/4 (October 1967): 1-20 (pp. 13-14).

³ Claude Bragdon, *The Frozen Fountain* (New York: Alfred A. Knopf, 1932), 74-79. In future footnotes to be referred to as *FF*.

⁴ Claude Bragdon, *NI*, 155-156.

⁵ Claude Bragdon, *Projective Ornament* (Rochester, New York: The Manas Press, 1915), 64. In future footnotes to be referred to as *PO*.

⁶ Carl G. Jung, *Man and His Symbols* (New York: Dell Publishing Company, 1964), 56-58.

⁷ Carlo Ginzburg, "From Aby Warburg to E. H. Gombrich: A Problem of Method," *Clues, Myths and the Historical Method* (Baltimore: The Johns Hopkins University Press, 1989), 17-59. See also Erwin Panofsky, "Iconography and Iconology: An

Bragdon's choice of the magic square of three as the generating force behind his design is based on the Chinese *Lo Shu* (figure 4): an ancient divination device that has transcended time, disappeared and resurfaced, transformed into other diagrams, migrated from China throughout Asia and Eastern Europe and across the Atlantic Ocean to America, and whose influence can be seen present in early 20th century art and architecture. Embodied within the *Lo Shu* is a timeless symbolism of the story of creation, union of opposites, unity in duality, yin-yang, the earth as a mirror of the cosmos, the macrocosm of the universe present in the microcosm of the body, and window to the world of the wondrous, the fourth dimension and the cosmic consciousness. The diagram of the *Lo Shu* is based on the 3 x 3 square, or a nine-square grid that could also be regarded as one central square surrounded by eight squares, and its magic path.

The symbolism of both the square and the circle is consistent, whether one looks to Eastern spirituality, Christianity or to the Native American: the square symbolizes the earth, the circle symbolizes the sky. The symbolism of color in most respects is consistent: for example, red usually stands for fire, black can be earth or water, gold generally represents celestial or divine light. Therefore, when Bragdon was insistent on gilding the ceiling of the Rochester Chamber of Commerce where his design based on divine creation was installed, there was a more substantial reason than merely spending an exorbitant amount of money to paint the ceiling gold. The objective here, however, is to get beyond the iconography in order to acquire an understanding of the square's iconology: its essential meaning as a world conception that has transcended time, geographic and cultural boundaries to provide meaning and content to early 20th century art and architecture, and to provide fuel for the architectural imagination.

In order to do this, many images were collected that had shared elements that were related to the *Lo Shu* and the layers were peeled back to discover whether or not there was a shared iconology as a substratum to those images. What was discovered was that underlying all those images was a message having to do with divine creation and the expansion of earthly consciousness to become cosmic consciousness, a type of spatial visualization or architectural imagination.

Background on the *Lo Shu*

Legend has it that the first magic square was introduced on the back of a sacred turtle some 25,000 years ago when it appeared to the mythical Chinese King Yü from the waters of the Lo River. It was depicted in a stylized dotted pattern composed of black and white circles connected by lines, arranged in nine groups containing one to nine units each (figure 4). This diagram came to be called the *Lo Shu*, which means "Lo River Writing."⁸ The *Lo Shu* is a symbol imbued with great cosmological significance that developed over several millennia in Old Chinese philosophy and religious beliefs.

To the Old Chinese, the *Lo Shu* was a concise representation of the universe in a microcosm, an *imago mundi*, that related to both the heavens and the earth through the harmonious balance of its numbers around the strong central number five, which was located at the center of the *axis mundi*, the cosmic axis connecting these two worlds. There were primarily two separate versions of the mode and functioning of this symbolic representation of the Old Chinese world view, which will be referred to as the *Tao* and the cult of *T'ai-Yi*.

The *Tao* was a process that governed all things through the harmonious balance of the *Yin* and the *Yang*. The *Yin*, or female principle, was expressed through even numbers, was associated with the Moon, and thrived in darkness, cold and quiet inactivity; while the *Yang*, or male principle, was expressed through odd numbers, was associated with the Sun, and was the source of light, heat, and dynamic vitality. They were also considered to be complementary opposites; therefore, for example, the complement of a *Yin* number—whether odd or even—would be *Yang*, and the complement of a *Yang* number—whether even or odd—would be *Yin*.⁹

The eight outer numbers of the *Lo Shu* represented the balanced equilibrium of the *Yin* and the *Yang* around the axial center, with a special significance attached to the central number five. The stylized version of the *Lo Shu* (figure 4) represented each of the digits by the same number of small circles connected with lines: white ones for the even

Introduction to the Study of Renaissance Art," (1939) *Meaning in the Visual Arts* (Chicago: University of Chicago Press, 1955), 26-54.

⁸ Schuyler Cammann. "The Magic Square of Three in Old Chinese Philosophy and Religion," *History of Religions* volume 1 (Summer 1961): 38-39.

⁹ Cammann, 50-52.

numbers and black ones for the odd, a manner that emphasizes the distinction between the Yin and the Yang.¹⁰ The magic line of the magic square, which traces the numbers in succession beginning with the number one (figure 2), was the path of the seasonal cycle of interplay between the Yin and the Yang changing places alternatively, as the year wheeled around in a kind of cosmic dance.¹¹

The *Lo Shu* was associated with the sky and another name for it had been “The Celestial Numbers of the Nine Halls (or Palaces),” which were considered to be sky-dwellings visited by various celestial deities. Since the *Lo Shu* was associated with Heaven, which was fundamentally Yang in Old Chinese thinking, it would have been considered to be primarily a Yang diagram; its opposite would be a Yin square, which would be related to the Earth and mirrored directly below its celestial counterpart. The Yang cycle would then begin in the sky, taking every second number from its complement on earth; whereas the Yin cycle would begin on earth, taking every other number from the sky.¹² This magic path was a cosmic exchange that wove together the heavens and the earth through the harmonious balance of the opposite forces of nature; the magic square symbolized all of Nature and its diverse elements in a state of ideal harmony around a vital axis connecting the heavens with the earth. The *Lo Shu* was a concise symbol of the universe in a microcosm.

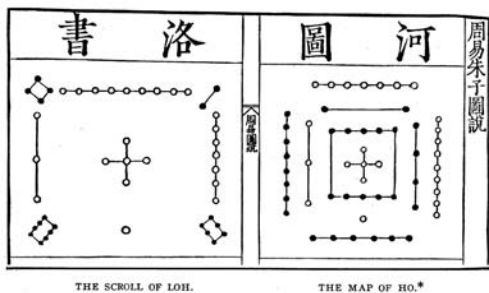


figure 4. *Lo Shu* and the *Map of Ho*



figure 5. The Dragon Horse Carrying the *Map of Ho* and the Tortoise with the Writing

The cult of *T'ai-Yi* (Han dynasty 202 BC-220 AD) believed that the Sky Emperor *T'ai-Yi* lived in a palace at the center of Heaven, at the top of the *axis mundi*, where he ruled the eight outer divisions of Heaven, in each of which he had a palace. In a like manner, the Chinese Emperor lived at the bottom of this cosmic axis, at the center of the Earth, and exerted his influence out in the surrounding eight directions. At some point in time during the Han dynasty, someone conceived of the idea that the obligations of the Sky Emperor were similar to those of his counterpart on earth. For example, it was believed that annually *T'ai-Yi* would leave his palace at the Center to inspect his realm in a ceremonial progress: he would move through his kingdom along a path that began at the center, went through the points of the compass by tracing the magic line of the *Lo Shu*, and returned to the central location.¹³ In

other words, *T'ai-Yi* would circulate among the “Nine Palace Halls” of the heavens following the order of the numbers in succession of the magic square of three diagram, beginning with the central number five and returning there (figure 2).

The *Lo Shu* is generally associated with another mathematical puzzle based on the number five, the *Map of Ho*, which was also used for divination purposes and similarly represented the creative force of the balance of Yin and Yang. These two arithmetical devices are related to two other ancient Chinese images of unknown origin: the Dragon Horse Carrying the Map of Ho and The Tortoise with the Writing (figure 5). On the back of the turtle are inscribed the Chinese characters for the five elements (water, wood, fire, metal and earth)—which reinforces the notion of the importance of the central number five in the *Lo Shu*. The legend associated with the Dragon Horse is that it is carrying the *Map of Ho* on its back. Even more significant, however, is that the Dragon Horse has the eight Chinese trigrams, or *kwa*, represented on its flank. *Kwa* are comprised of yin and yang lines: a broken line for yin and a solid line for yang. Each trigram has its own meaning depending on how the lines are combined, and they apply to all possible relations of life. The *kwa* are used for divination and their understanding provides the key to the riddle of the universe.¹⁴

The *Lo Shu* magic square became public knowledge in China in the tenth century AD after about thirteen hundred years of hidden, private or cultic use. By the tenth century, however, the mysteries of the *Lo Shu* had been absorbed into the Chinese cultural fabric through popular use as a protective charm and as a magical means of divination. The diagram

¹⁰ Cammann, 76.

¹¹ Cammann, 55-56.

¹² Cammann, 55.

¹³ Cammann, 60-64.

¹⁴ Paul Carus, *Chinese Philosophy* (Chicago: The Open Court Publishing Company, 1902), 17-21 and Paul Carus, *Chinese Astrology* (Chicago: The Open Court Publishing Company, 1974), 25-33.

that had survived into the tenth century was derivative: it had lost its cosmological significance, it was no longer used for divination, its numbers were obscured because of the dotted pattern which prevented the recognition of its distinctive mathematical properties, and it had degenerated into merely a riddle. Sometime during the Sung dynasty (960-1280 AD) the cyclical workings of the *Tao*, which were represented by the magic line in the magic square of three, were reduced to the notion of a circle cut in two by an S-shaped line. The *Lo Shu* itself was replaced by the symbol commonly known today as the *Yin-Yang* (figure 3).¹⁵

The *Lo Shu* diagram may have been replaced by the *Yin-Yang* and its original meanings lost, however, the symbolic content of the *Lo Shu* has become ingrained in many eastern religious beliefs, although the literal symbol itself may have disappeared. For example, almost all of the attributes of the *Lo Shu* together with the Dragon Horse can be seen represented by the Tibetan astrological diagram, the Golden Tortoise (figure 6), which was believed to have been introduced into Tibet by the Chinese princess W'en chang around 642 AD.¹⁶

Simultaneously both the underside and the back of the Golden Tortoise can be seen, with the *Lo Shu* magic square in the center within a circle instead of a square and with its numerals being replaced by Tibetan numerals. Surrounding the *Lo Shu* are the eight Chinese *kwa* within lotus petals, which in turn are surrounded by twelve lotus petals, each of which contains an animal representing one of the years of the Chinese "twelve-year cycle." The tortoise's four limbs take the form of the human hand and point to the four intercardinal directions. Each hand spears a frog, in Tibet considered as being the "soil spirit" of the earth, thereby representing the four quarters of the earth element. This is further reinforced by the square earth symbol being located adjacent. The five elements (earth, water, fire, air and ether) are represented by the four cardinal directions plus the center.



figure 6. Tibetan Golden Tortoise

When the Golden Tortoise is viewed in section it becomes apparent how the tortoise as an astrological device can represent both the divine and the human: the dome of the upper shell as representative of the cosmos above the earthly plane of the lower shell. As a divination device, the Golden Tortoise represents the notion of "squaring the circle" by allowing one to use earthly powers in an act of creation in order to "divine" the future. In other words, one squares the circle by expanding earthly consciousness to encompass the divine and be in union with the cosmic consciousness.

Man: The Magic Square

The symbolism of man by a square is not new idea: it is implicit even in the form of his body, for if a man stand with feet together and arms outspread, he will define the limits of a square, his height being equal to his reach; and if, thus standing, he swings his torso half-way around, he will have inscribed himself within an imaginary cube—for it is as Kepler says, "Artful nature has give to the most perfect animal the same six limits as the cube has, most perfectly marked. . . Man himself is, as it were, a cube."

Claude Bragdon, *The New Image*, "Man: the Magic Square"¹⁷

In 1913 the Russian-born Petr Uspensky (1878-1947) departed for Egypt and India in "search of the miraculous" after having read Claude Bragdon's *Man the Square* (1912), a parable about the fourth dimension that through the analogy of the square's two dimensions to the cube's three-dimensions discusses the relationship between archetypal man's indwelling personal consciousness to the higher-dimensional archetypal world's divine consciousness. Although Bragdon does not specifically use the terminology, this parable is about achieving cosmic consciousness.

Uspensky was a journalist and occult writer who had inherited mathematical talents from his father. In 1908 he began extensively reading Theosophical and occult literature and he published his first book on the fourth dimension in 1910. Coincidentally, Claude Bragdon was also interested in Theosophy, so much so that he began and ended *Man the Square*

¹⁵ Cammann, 73-78.

¹⁶ Robert Beer, *The Encyclopedia of Tibetan Symbols and Motifs* (Boston: Shambhala, 1999), 116-120.

¹⁷ Bragdon, *NI*, 162.

with quotations by Theosophy's founder, Helena Petrovna Blavatsky (1831-1891), a Russian-born émigré to the United States.¹⁸ After Uspensky's return from the East, he corrected and supplemented his 1911 book *Tertium Organum* and republished this second Russian edition in 1915, which subsequently found its way into Bragdon's hands in 1918. Together with Nicholas Bessaraboff, Bragdon translated *Tertium Organum* into English.¹⁹ In *Tertium Organum* Uspensky weaves together the mathematical logic of a space of four, or more, dimensions with notions of achieving "cosmic consciousness"²⁰ and his mystical, occult and eastern philosophical sources of Taoism, Hinduism and Buddhism are readily apparent.

It has been well-documented that the ideas of Uspensky significantly influenced the Russian avant-garde, especially through his book *Tertium Organum*, which was read by both Cubists and Futurists²¹ and excerpts certainly would have been read by Kazimir Malevich.²² Malevich may have even attended one of Uspensky's many public lectures.²³ In *Tertium Organum* Uspensky challenges the artist to be clairvoyant: to see beyond the archetypal phenomenal world into the higher-dimensional world of the noumenal. According to Uspensky, the *noumenon* is the hidden meaning and the hidden function of a thing that is reflected on earth as a *phenomenon*: a two-dimensional image of something three-dimensional. To Uspensky the "soul of the artist" has the ability to understand and *feel* the reflection of the noumenon in the phenomenon. To Uspensky, the artist ". . . must see that which others do not see: he must be a magician, must possess the power to make others see that which they do not themselves see, but which he does see."²⁴

In the 1914 edition of Uspensky's *Fourth Dimension* he criticized Cubism and Futurism for misinterpreting his words by creating works that he believed to be the "falsification" of the ideas of the fourth dimension and he was outraged that these artists claimed to have attained a new vision of the world.²⁵ The art to which Uspensky referred seems to be the motion-oriented works of late 1912 and the Cubo-Futurist paintings of 1913. It seems that the object-oriented paintings of simultaneous views or objects in motion interpreted too literally the notion of seeing that which others do not see, very much like the time and motion photographic studies of Muybridge and Marey captured what couldn't be seen by the naked eye. Later in *Tertium Organum* Uspensky writes, "Art in its highest manifestations is a path to cosmic consciousness."²⁶ This type of art could only be successful to Uspensky, then, if it were the manifestation of a four-dimensional vision, which could not occur in nature but only as a mental operation of the mind's eye.

It has not been documented that Malevich responded directly to Uspensky's challenge of clairvoyancy for the artist, however, in his book *The Non-Objective World* he seems to provide a direct rebuttal to Uspensky's criticism. Malevich criticizes Cubism for standing "at the edge of the culture of Cézanne" and Futurism as "pointing toward abstract art" and bordering "on a new culture—*non-objective Suprematism*."²⁷ In other words, both Cubism and Futurism were steps along the way, but neither art form had reached the "new culture" because neither were a "new reality" but were simply

¹⁸ There is no documentation as to how Uspensky obtained a copy of *Man the Square*. It is very likely that *Man the Square* was distributed along with other Theosophical books. It seems probable that since he was interested in Theosophy and was avidly reading Theosophical works that he obtained the book through Theosophical sources. We do know that he had a copy of the book because in the author's preface to the second English edition of *Tertium Organum* (1921) he writes, "Also, it is especially pleasant for me to remember that a number of years ago Mr. Bragdon's *Man the Square* reached me in Petrograd, and that I, not knowing Mr. Bragdon's other works at all, selected this little book from a whole series received from abroad, as one which carried the message of a common thought, a common understanding." We know he read it before travelling to India because in a letter to Bragdon he writes, "The fact is that I know this small book very well and like it immensely. I had it in Petersburg before my travelling to India" (10 April 1921 [Bragdon Family Papers, University of Rochester archives]).

¹⁹ Claude Bragdon, "Introduction to the English Translation," in P. D. Ouspensky, *Tertium Organum*, translated by Nicholas Bessaraboff and Claude Bragdon (Rochester, NY: Manas Press, 1920), vii.

²⁰ In *Tertium Organum* Uspensky quotes extensively from the Canadian psychiatrist and mystic Richard M. Bucke's book *Cosmic Consciousness* (Philadelphia: Innes, 1901), which first appeared in Russia in 1915.

²¹ See Patricia Railing, *From Science to Systems of Art* (East Sussex, England: Artists Bookworks, 1989), Linda Dalrymple Henderson, "Transcending the Present: The Fourth Dimension in the Philosophy of Ouspensky and in Russian Futurism and Suprematism," *The Fourth Dimension and Non-Euclidean Geometry in Modern Art* (Princeton: Princeton University Press, 1983), 238-299, Charlotte Douglas, "Beyond Reason: Malevich, Matiushin, and Their Circles," and Edward Kasinec and Boris Kerdimun, "Occult Literature in Russia," in *The Spiritual in Art: Abstract Painting 1890-1985*, edited by Edward Weisberger (New York: Abbeville Press, 1986), 185-199 and 361-365, and Irina Gutkin, "The Magic of Words," in *The Occult in Russian and Soviet Culture*, edited by Bernice Glatzer Rosenthal (Ithaca: Cornell University Press, 1997), 234-235.

²² Malevich would have known about the work as early as 1913 when his friend Matiushin published long sections interspersed with his review of Gleizes and Metzinger's *DU CUBISME IN UNION OF YOUTH* 3 March 1913.

²³ In Petersburg during February and March of 1915 Uspensky gave public lectures on his travels in India, and repeated those lectures in Moscow after Easter. P. D. Ouspensky, *In Search of the Miraculous* (New York: Harcourt Brace Jovanovich, 1949), 6.

²⁴ Ouspensky, *Tertium Organum*, 156.

²⁵ Henderson, *The Fourth Dimension and Non-Euclidean Geometry in Modern Art*, 278-288.

²⁶ Ouspensky, *Tertium Organum*, 339.

²⁷ Kazimir Malevich, *The Non-Objective World* (Chicago: Paul Theobald and Company, 1959), 61 (written 1922-1925).

reflections of nature, or what can be seen by the eye. According to Malevich, "the artist who creates rather than imitates expresses himself"²⁸ through creating a new reality that is not based on what can be seen in nature, but is based on what the artist feels. To Malevich the distinguishing characteristic was *feeling*: "Feeling is the determining factor. . . and thus art arrives at non-objective representation—at Suprematism."²⁹ To Uspensky, it was because of the artist's ability to *feel* that the artist could see the reflection of the noumenon and (re)present it as a phenomenon. Malevich equated feeling with the non-objective square.³⁰

Why the square? Malevich's answer was, "The suprematist square and the forms proceeding out of it can be likened to the primitive marks (symbols) of aboriginal man which represented, in their combination, not ornament but a feeling of rhythm."³¹ To Malevich, rhythm was related to feeling. Malevich was also very familiar with Theosophy and may have come across *Man the Square* in a way similar to the way Uspensky did. If he was influenced by Bragdon, then in choosing the square he could equate the three: feeling, man and square.

Then why did Bragdon choose the square? For example, why not the pentagon? The human form has five appendages, head, arms and legs, and relates well to the star pentagram (figure 7), which is a much more interesting shape. The human form also fits well within the circle. In *Man the Square* Bragdon begins by quoting previous sources: Kepler³² and H. P. Blavatsky,³³ who corroborate the relationship between the square and the human form and legitimate Bragdon's reasoning behind his choice of the square. However, even prior to Kepler, the square has always represented the earthly. If one looks again to the ancient Chinese *Lo Shu*, then the use of the square as the shape to best represent the iconology of the macrocosm of the universe in the microcosm of the body begins to make more sense.



figure 7.
Claude Bragdon

For example, in the second century BC when the *Lo Shu* was used as a means of divination it had been referred to as the "Nine Halls Calculation." In the sixth century AD, the Taoist Chên Luan explained this reference by the quotation, "2 and 4 make the shoulders, 6 and 8 make the feet; 3 is at the left, 7 is at the right; 9 is worn on the head and 1 is underfoot [literally: trodden by the shoes]; while 5 dwells at the center." This mnemonic means of ciphering the order of the numbers of the magic square of three referred to a person, and most likely to a man or god considered as a microcosm of the universe.³⁴ The number five was important because it was located at the center, or navel of this cosmic man, which is also the location of the mythical *axis mundi*.

In his 1923 essay, "Contemporary Art," Malevich wrote that the cube symbolized the fuller "six-sided" perception of looking forward, backward, left, right, upward and down: "The new phenomenon or measure is a technological means for carrying out, not private trade, not three-dimensional, imitative art, but four-dimensional; not on three, but on six planes, not a half-cubic, but a cubic form, this will be the new realism of our time."³⁵ According to Bragdon in *Man the Square*, the square is just the phenomenon of man's Higher Self the noumenon: "The cube is the true individual, of which the square is but a single illusory and inadequate image."³⁶ The true individual is one's higher, cubic self who is one with divine consciousness or in Malevich's terms has "six-sided" perception. The true individual is isometric (figure 8).

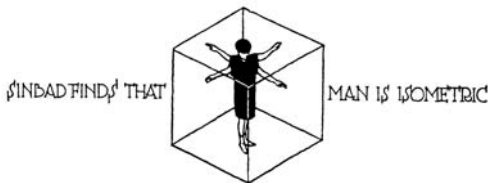


figure 8.
Claude Bragdon, *Frozen Fountain*, 1932

In *Man the Square* Bragdon advises you to live "*uprightly*" and in "so doing you will make vertical and parallel the axes of your higher, or cube bodies."³⁷ Coincidentally, Malevich's musician and painter friend Mikhail Matiushin (1861-1934) sensed that he "*created a new direction*" that went from him "*ahead into infinity*." According to Matiushin, this line had not yet appeared in the human consciousness "because a person's body up until now was the boundary for the lines of

²⁸ Malevich, 30.

²⁹ Malevich, 67.

³⁰ "The square = feeling" in Malevich, 76.

³¹ Malevich, 76.

³² Kepler: "Artful nature has give to the most perfect animal the same six limits as the cube has, most perfectly marked. . . Man himself is, as it were, a cube." *Mysterium Cosmographicum*.

³³ Blavatsky: "The phenomenal world receives its culmination and reflex of all in MAN. Therefore he is the mystic square—in his metaphysical aspect—the Tetraktys; and becomes the cube on the creative plane." *The Secret Doctrine*. Vol. II, p. 39, third edition.

³⁴ Cammann, 42-43.

³⁵ Quoted in Henderson, 293-294.

³⁶ Claude Bragdon, *Man the Square in A Primer of Higher Space: The Fourth Dimension* (New York: The Manas Press, 1913), 76

³⁷ Bragdon, *Man the Square*, 77.

the third dimension, from front to back, just as the earth is the boundary for a line down from above. I abolish that boundary, and create a direction-line going through me to the back, through the earth and through my antipode toward a star."³⁸ From these descriptions, it seems that Matiushin was referring to an *axis mundi* penetrating the navel and extending to infinity, and Bragdon was referring to an *axis mundi* running vertically through the spine central to the isometric individual, both of which in relation to the cube have an embodied iconology found within yet another ancient Chinese device: the *ts'ung*, or Earth Symbol (figure 9).

The *ts'ung* is externally cubic and internally tubular, which makes it open from below upwards and from above downwards as a channel for the Way or the *tao*. The *ts'ung* is made from yellow jade (yellow the color for the element earth), which stands for immortality. The *ts'ung* is intended to receive a spiritual tree, or *axis mundi*. In funerary rites, the *ts'ung* is placed on the navel and the body is oriented to the compass points, so that the whole body is enclosed in what is called the "brilliant cube." The intention is to provide the deceased with a new and crystalline cosmic body of light. In Taoist tradition, in simulating death, the initiation rite gives birth to the "new man," called the "Diamond Body," who is a transformed being set free from the limitations of human individualization.³⁹ In other words, a person who has become one with the universal and has achieved cosmic consciousness.



figure 9.
jade Chinese *ts'ung*

In 1915 Malevich exhibited his painting *The Black Square* (figure 10) at the "0.10. Last Futurist Exhibition" held in Petrograd. In the brochure that accompanied the exhibition he declared, "I have transformed myself in the zero of form. . ." ⁴⁰ In the eastern spiritual tradition of Tantra, the mathematical point of zero dimension is a representation of consciousness that signifies the starting-point of the unfolding of consciousness, as well as the last point of its ultimate integration. This point is called *bindu*, is represented literally as a point, and is generally placed at the center of the *yantra*.⁴¹ In tantric tradition the *yantra* is a visual tool used for meditation that serves as a representation of some personification or aspect of the divine, and is a pure geometric form without any iconographic representation.⁴² What is striking about Malevich's *The Black Square* is that its image has qualities similar to the tantra illustration from the 17th century entitled *Pure Conscience* (figure 11), among others.

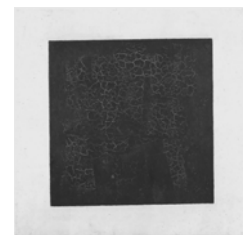


figure 10.
Kazimir Malevich,
The Black Square,
1915

What was curious about this exhibition was that *The Black Square* was hung near the ceiling diagonally across one corner of the exhibition space (figure 12). This position is the traditional place for the display of icons in the Russian home, the *krasnyi ugol* (fair corner), often the back right corner of the reception or dining room (figure 12a).⁴³ The ultimate example of Russian iconic tradition was the *Spas nerukolovorny*, which was the imprint of Jesus' face on white linen and the first icon to be hung in the corner. The *Spas nerukolovorny* was considered to present a higher noumenal reality, or a representation of Christ's Higher Self. This coincides with Uspensky's definition of the phenomenal as being the image of the noumenal. Later in 1922 Malevich wrote, "There are however, no icons on which the saint is a zero. The essence of God, however, is the zero-salvation."⁴⁴ *The Black Square*, however, was exhibited as an icon that represented the essence of God as zero, *bindu*, or the beginning and end of the expansion of cosmic consciousness. Malevich later wrote that ". . . The corner symbolizes that there is no other path to perfection except for the path into the corner."⁴⁵



figure 11. Tantra,
Pure Conscience,
17th century

³⁸ Mikhail Matiushin, "An Artist's Experience of the New Space," (1926) in Henderson, 292-293.

³⁹ Ananda Coomaraswamy, "Svayamatryna: Janua Coeli," *The Door in the Sky* (Princeton: Princeton University Press, 1997), 15-17.

⁴⁰ Malevich, "From Cubism," 1916, in Troels Andersen, ed., *K. S. Malevich, Essays on Art, 1915-1928* (Copenhagen, 1971, 2d ed.), vol. 1, 19.

⁴¹ Ajit Mookerjee and Madhu Khanna, *The Tantric Way* (London: Thames and Hudson, 1977), 54-55.

⁴² Mookerjee and Khanna, *The Tantric Way*, 50.

⁴³ In W. Sherwin Simmons, "Kasimir Malevich's 'Black Square': The Transformed Self Part Three: The Icon Unmasked," *Arts Magazine* 53/4 (December 1978): 129. For the use and display of icons in Russia see Nikodim Pavlovich Kondakov, *The Russian Icon*, trans. Ellis H. Mims (Oxford: Clarendon Press, 1927), 34.

⁴⁴ Kasimir Malevich, *Suprematismus-Die gegenstandlose Welt*, trans. by Hans von Riesen (Cologne: DuMont, 1962), 57.

⁴⁵ K. S. Malevich, *The World as Non-Objectivity, Unpublished Writings 1922-1925*, ed. By Troels Anderson, trans. by Xenia Glowacki-Prus and Edmund T. Little (Copenhagen: Borgens Forlag, 1976), 354.



figure 12. Kazimir Malevich
0.10. Last Futurist Exhibition, Petrograd



figure 12a. Ivan Petrovich Volskii
Russian Living Room with an Icon Corner

A contemporary of Malevich's was the priest, Fr. Pavel Florensky (1882-1943) who wrote at about the same time as Malevich that the "essence of a human being is the image of God."⁴⁶ This concurs with both Bragdon's notion in *Man the Square* that man is the two-dimensional reflection, or image, of his higher cubic self and Uspensky's definition of the phenomenon as the two-dimensional image of the three-dimensional noumenon. According to Florensky, the icon was the outline of a "heavenly vision" that "because its outline coincides with a spiritual vision, is that vision within our consciousness."⁴⁷ The icon, then, is an outline of the vision and not an imitative representation of it. If the icon is "more than itself in becoming for us an image of a heavenly vision or less than itself in failing to open our consciousness to the world beyond our senses—then it is merely a board with some paint on it."⁴⁸ To Florensky, the icon should be a tool that could be used to expand one's consciousness to encompass the divine. Although he doesn't specifically state it, his words could be interpreted to mean that an icon could be similar to a *yantra*. What Florensky doesn't talk about is the viewer's participation with the icon in the expansion of consciousness.

Malevich reduces the Russian icon to *The Black Square* on a white field, which represented the void.⁴⁹ This void represented the celestial void of the "blue lampshade of the firmament," the sky comprised of all colors in the spectrum of the rainbow in unity, or the white light of the divine.⁵⁰ "My acquaintance with icon painting convinced me that the point is not in the study of anatomy and perspective, not in depicting the truth of nature, but in sensing art and artistic reality through the emotions. In other words, I saw that reality or subject matter is something to be transformed into an ideal form arising from the depths of aesthetics."⁵¹

The Black Square = feeling. It was an icon, an ideal form that was the absence of all color, or a zero. Tantra regards vibration as a primary cosmogenic element which gives rise to all structures: as movement increases, form is condensed into a whole, which is represented as a mathematical point of zero dimension. In tantric tradition the *yantra* is used as a machine to stimulate inner visualization. When the *bindu* begins to evolve, the primary geometric shape is set into motion and form becomes more differentiated while multiple spaces interpenetrate, overlap, collide and generate energy in this process of inner spatial visualization. The diagrams of tantra could be described as ideal forms that represent the immobilization of the primordial vibrations of the expansion and contraction of forces in the ongoing process of creation.⁵² Like the *yantra*, Malevich's icon was dependent on the viewer's powers of visualization, or architectural imagination.

The Imaginary/Irrational Space of Creation and (re)Creation

An inevitable duality bisects nature, so wrought into the very texture of everything that we forget that it is there. . . It is as though the universe were split in half and was being re-united by the marriages of countless pairs of opposites. . . Each term of these pairs of opposites means something, provokes a different kind of subjective emotional reaction, and all of the corresponding terms of all the pairs are referable to the same thing, which is the masculine or the feminine aspect of the Divine Androgyne, or astrological "Grand Man." That is to say, whatever is simple, direct, primary, active, positive, is Yo—masculine; and whatever is complex, indirect, derivative, passive, negative, is In—feminine. Things hard, straight, fixed, vertical, are Yo; things soft, curved, horizontal, fluctuating, are In—and so on.

Claude Bragdon, *The New Image*, "Experiments in a Language of Form"⁵³

⁴⁶ Pavel Florensky, *Iconostasis* (1922), trans. Donald Sheehan and Olga Andrejev (Crestwood, NY: St. Vladimir's Press, 1996) 55.

⁴⁷ Florensky, 64.

⁴⁸ Florensky, 65.

⁴⁹ The square = feeling, the white field = the void beyond this feeling. Malevich, *The Non-Objective World*, 76

⁵⁰ El Lissitzky, *Russia: An Architecture for World Revolution* (originally published as *The Reconstruction of Architecture in the Soviet Union* in 1930), trans. Eric Dluhosch (Cambridge: The MIT Press, 1970), 145.

⁵¹ Kazimir Malevich, "Fragments from 'Chapters From an Artist's Autobiography,' 1933," translated by Allan Upchurch in catalogue, 174.

⁵² Mookerjee and Khanna, *The Tantric Way*, 50-51.

⁵³ Bragdon, *NI*, 122-123.



figure 13.
 SATOR-ROTAS
 Magic Square

In an eternal process of creation the *yin* and the *yang* (*in* and *yo* in Japanese) weave the heavens together with the earth through a marriage of opposites that balance each other in unity. In ancient China this process of creation was represented by the *Lo Shu* diagram, or magic square of three. There is another equally powerful form of magic square that is constructed using letters instead of numbers to create words that when pronounced together can cast a spell or when the diagram is worn as a talisman or amulet can be used for good luck. This magic square is an acrostic: the letters align horizontally and vertically to spell words that can be read both forwards and backwards. There is a palindromic magic square that figures significantly in Russian culture at the turn of the century: the SATOR-ROTAS square (figure 13).

The SATOR-ROTAS square has been discovered in remote and ancient Britain dating from the Roman Empire 280 AD, it was found in Egypt dating from the fourth or fifth century, in the ninth century it was used in cave painting in Cappadocia, and the earliest known example was found written on the wall of the Palestra at Pompeii dating from 79 AD. Legend has it that this magic square has a powerful form of magic and it has always been used for protection. The words translate approximately to SATOR = savior, AREPO = plough, TENET = rules, OPERA = the works of man, and ROTAS = creation.⁵⁴ The interior word is a palindrome that crosses itself and the perimeter of the square is an endless palindrome. When the words are read around its perimeter it is obvious that the magic of this square is based in eternal divine creation and that it has similar properties to those described by Bragdon's illustration of the Divine Androgyne (figure 14).

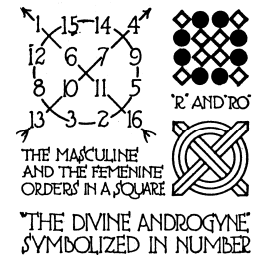


figure 14.
 Claude Bragdon,
 The New Image, 1928

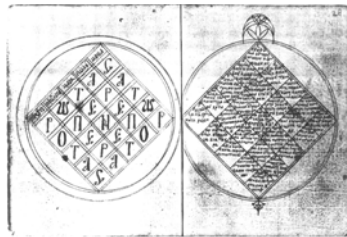


figure 15.
 SATOR Square, 1752.

In Russian and South Slavonic texts the SATOR-ROTAS square is common. Russian versions of this magic square date from approximately the sixteenth century onwards and appear in calendrical and computistic texts, sometimes together with perpetual calendars; in miscellanies of astrological and esoteric or apocryphal material; and sometimes with an accompanying acrostic "explanatory" text in which each letter of the square is given a biblical context beginning with that letter (figure 15). It has been depicted together with paschal tables and the *Krug yugorskiï* (the "Uighur cycle," divination based on the twelve-animal cycle of some eastern calendars).⁵⁵ The image of the SATOR-ROTAS square in figure 15 is of a square inscribed within a circle and most likely it has properties similar to those of the Tibetan Golden Tortoise.

The Russian versions of the SATOR-ROTAS square are often called "The Seal of Solomon the Most Wise"⁵⁶ and are related to the *Circle of Solomon* that, like the *ouija* board of today, was commonly used as a means of divination. The *Circle of Solomon* was a booklet that usually had an illustration on the front cover of a bearded man, positioned like Atlas, holding a graduated circle with numbers (1 to 100-150) in a spiral with a face of the sun in the center. Divination worked by throwing a grain of wheat onto the illustration of the *Circle of Solomon* and the number on which it fell referred to one of a series of predictions within the booklet that were either quotes from the Bible or other apocryphal works. The *Circle of Solomon*, together with the *sonnik* (dream book), formed one of the favorite evening diversions in Russian peasant, merchant and *petit bourgeois* households in the nineteenth century. The *Circle of Solomon* was popular well into the twentieth century: it is documented that in 1907, the booklet was on sale in Moscow and the image of the sun containing the numbers was used as the design for the wrappers of candies.⁵⁷

Most "Solomonic" literature is of an esoteric nature and is often Jewish in origin. There are very few texts, other than the Slavonic, that link the SATOR-ROTAS square with Solomon directly, other than Jewish texts on magic which consistently link the two, which hints at the possible Jewish origins of divinatory literature in Russia. For example, a version of this magic square called the Second Pentacle of Saturn can be found in a medieval magical work entitled the *Key of Solomon the King*, which is claimed by the book's translator to be Kabbala.⁵⁸ A stylized version of the magic path of

⁵⁴ Walter O. Moeller, *The Mithraic Origin and Meanings of the ROTAS-SATOR Square* (Leiden: 1973).

⁵⁵ W. F. Ryan, "Solomon, SATOR, Acrostics, and Leo the Wise in Russia," *Oxford Slavonic Papers* XIX (1986): 46-61.

⁵⁶ W. F. Ryan, *The Bathhouse at Midnight* (University Park, Pennsylvania: The Pennsylvania State University Press, 1999), 303.

⁵⁷ Ryan, *The Bathhouse at Midnight*, 326-327.

⁵⁸ Ryan, "Solomon, SATOR, Acrostics, and Leo the Wise in Russia," *Oxford Slavonic Papers* XIX (1986): 46-61.

the magic square of three, referred to as "the Great Seal of Saturn," can be found common to Hebrew, Arabic and Western magical traditions.⁵⁹

It is difficult, if not impossible, to be knowledgeable about the Jewish mystical tradition without having a thorough understanding of Judaism because its writings refer back to biblical, Talmudic, and midrashic texts. Suffice it to say, however, that in Russia, Jewish mysticism was inseparable from Jewish tradition and by the nineteenth century some kabbalistic philosophy had become part of normative Jewish practice. In brief, there are aspects of kabbalistic esotericism that have similarities to both Tantra and the ancient Chinese belief systems that were represented by the *Lo Shu*: according to Kabbala there is a dynamic and organic interrelationship of the one and the many, sex is a divine activity, and there is a correspondence between the earthly and the divine such that any activity on earth stimulates a corresponding activity above. In Russia, Kabbala was not "hidden," it was integrated into Jewish life and laws, and kabbalistic mystics were family men and activists within their communities.⁶⁰

El(eazar) Lissitzky was born in the town of Vitebsk in the Smolensk region in Russia, of a Jewish middle-class family and his childhood was spent in an orthodox Jewish milieu. Vitebsk was a Jewish community whose folk culture has been immortalized by the paintings of Marc Chagall, Lissitzky's friend and fellow student. During 1915-1916, Lissitzky worked as an architectural assistant in firms in Moscow and in 1917 he completed his architectural degree. Soon thereafter, Chagall, who had held the post of Commissar of Fine Arts in Vitebsk, invited Lissitzky to teach architecture and graphics in one of the art schools at Vitebsk.

He worked with Marc Chagall in the Vitebsk School of Art where he developed an interest in Jewish folklore and book illustration. Most of Lissitzky's work that has survived from the years 1916-1917 is in illustrating, in a style close to that of Chagall, Jewish children's folktales by weaving together the illustrations with the Yiddish text. One of those books was *Yingl Tsingl Khvat* (figure 16) written by the Yiddish poet Mani-Leib, who like the main character of the story had also lived in a village, known in Yiddish as a *shtetl*, as a young man. It was a story of a young Jewish boy who rescued his *shtetl* from eternal gloom.⁶¹



figure 16. El Lissitzky,
Cover illustration, *Yingl Tsingl Khvat*,
1918

In the autumn of 1919 Kazimir Malevich arrived at the Free Studios of the Vitebsk School of Art. By November, Chagall had left for Moscow and Malevich had become head of the school. Malevich, Lissitzky and their colleagues radically changed the spirit of the school, renamed it Champions of the New Art, or UNOVIS, and reorganized the teaching program entirely. In the studios, "the new art" that would be taught was, of course, Suprematism. Lissitzky taught with Malevich at UNOVIS in 1919 and 1920.

In 1920 Lissitzky wrote and illustrated a new children's book, ABOUT 2 ■, a Suprematist tale about the (re)creation of the world in six constructions—the 7th of which is the book itself that contains them all: ". . . a world which indeed already exists in man but which man has not yet been able to perceive."⁶² It is a tale about the creation of a noumenal Higher Self or "new reality" from the phenomenal through the (re)construction of a unity from a fragmented world: ". . . into this chaos came suprematism extolling the square as the very source of all creative expression."⁶³ According to Bragdon in *Man the Square*, the individual has a seven-fold nature, which is comprised of six different aspects of the Higher Self. The self is represented on the physical plane by the unfolded cube of three squares crossing four (figure 17). When

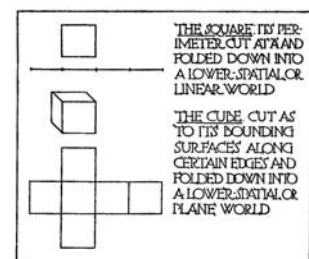


figure 17. Claude Bragdon,
Man the Square 1912.

⁵⁹ Beer, 121.

⁶⁰ Judith Deutsch Kornblatt, "Russian Religious Thought and the Jewish Kabbala," in *The Occult in Russian and Soviet Culture*, 75-98.

⁶¹ Mani-Leib with illustrations by El (Lazar) Lissitzky, *Yingl Tsingl Khvat* (Mt. Kisco, New York: Moyer Bell Limited, 1986).

⁶² El Lissitzky, "Suprematism in World Reconstruction," *UNOVIS* No. 1 (1920) in Patricia Railing, *More About 2 ■*, (East Sussex, England: Artists Bookworks, 1990), 49.

⁶³ El Lissitzky, "Suprematism," 47.

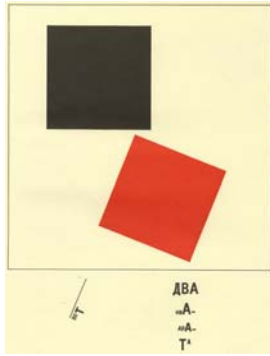


figure 18. El Lissitzky, *Here are Two Squares*, 1920.

"comprehend the new conditions of life," therefore they are able to "actively participate in the full realization of the new world." In the fifth construction they direct their efforts "toward the goal of reconstruction."⁶⁵ In the sixth construction **HERE IT ENDED. . . FURTHER.**

ABOUT 2 ■ is a story about a black square and a red square who come from "the void" to earth to reconstruct the world in order to create a "new culture" and a "new reality." Two squares = creation of unity through duality. Malevich's influence on this children's book (figure 20) is as equally apparent as Chagall's influence had been on Lissitzky's previous folktales. The choice of the square as a main character in the story clearly reflects Malevich's philosophy: "The square changes and creates new forms, the elements of which can be classified in one way or another depending upon the feeling which gave rise to them."⁶⁶ The constructions in the book proceed from pure, planar suprematism for the first two constructions to architectural suprematism for constructions three through six.⁶⁷

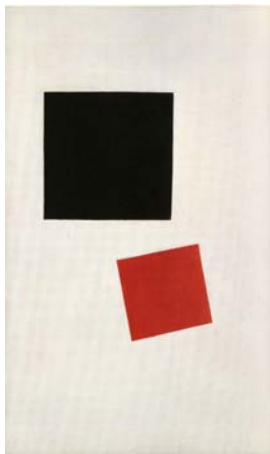


figure 20 . Kazimir Malevich, *Color Masses in the Fourth Dimension*, 1915.

one has manifested all six aspects of the Higher Self, one's seven-fold nature folds up to become the heavenly cube, united with the divine. Folded up in its entirety, Lissitzky's book (cube) is about divine (re)creation.

There is no documentation that Lissitzky was familiar with either Bragdon or the SATOR-ROTAS square. However, it is possible that he was influenced by *Man the Square* similarly to the way Malevich might have been and, due to his Jewish heritage and the popularity of the *Circle of Solomon* divination booklet, he may have been culturally prepared to be receptive to the use of a square as a symbol to illustrate (re)creation.

ABOUT 2 ■ is a children's tale in response to a country in transition: "at present we are living through an unusual period in time—a new cosmic creation has become reality in the world—a creativity from within ourselves which pervades our consciousness."⁶⁴ The main characters are two squares (figure 18) who are **FLYING TO EARTH FROM AFAR** (figure 19). They are alarmed by what they **SEE** and **CRASH ALL SCATTERED**. The story's protagonists are Suprematism's archetypal squares that represent the ability to



figure 19. El Lissitzky, *Flying to Earth From Afar*, 1920.

Lissitzky's little book about two squares was created during 1920. Also, in 1920 Malevich created his book of the language and stages of suprematism, his SUPREMATISM . 34 DRAWINGS (published at UNOVIS, December 1920), and Lissitzky collected eleven of his first Prouns into an album of lithographs (published in Moscow in early 1921). These three books are tightly linked attempts to visually demonstrate Suprematism, from Malevich's planar suprematism to Lissitzky's architectural suprematism.

Lissitzky's "Projects for the Affirmation of the New" or Proun coincide with the beginning of his work with Malevich in 1919. Lissitzky's architectural training had provided him with the skills to balance Malevich's dynamic planar suprematism and to create his Proun abstract architecture: "The culture of Suprematism can manifest itself two different ways, namely, as dynamic Suprematism of the plane (with the additional element of the "suprematist straight line") or as static Suprematism in space—abstract architecture (with the additional element of the "suprematist square")."⁶⁸ This "static" suprematism in space, like the diagrams of tantra, was intended to be an ideal form that represented the immobilization of the forces in the process of creation: "EACH FORM IS THE FROZEN TEMPORARY IMAGE OF A PROCESS, THUS, ANY WORK MERELY

⁶⁴ El Lissitzky, "Suprematism," 47.

⁶⁵ El Lissitzky, *Russia: An Architecture for World Revolution*, 27.

⁶⁶ Malevich, 76.

⁶⁷ Patricia Railing, *More About 2 ■*, (East Sussex, England: Artists Bookworks, 1990), 22.

⁶⁸ Malevich, 61.

REPRESENTS A WAY STATION IN THE PROCESS OF BECOMING, AND NOT A FROZEN GOAL."⁶⁹ The works of Malevich's and Lissitzky's Suprematism represented "a creativity from within ourselves which pervades our consciousness," which was "only a snapshot view of a transition"⁷⁰ that had occurred in the four-dimensional space of their architectural imaginations.

In 1925 Lissitzky wrote a ground-breaking article entitled "A. and Pangeometry"⁷¹ in which he discusses A. (art) and the differences between planimetric space, perspectival space, imaginary space and irrational space. He describes *planimetric* space as the physical two-dimensional flat plane that provides the illusion of depth due to the overlapping of objects. He compares *perspectival* space with the camera and the space it represents to the constant three-dimensional state of Euclidean geometry. According to Lissitzky perspective has "fitted the world into a cube . . . in such a way that in the plane it appears as a pyramid" (figure 21). However, in the West the vertex of the pyramid points to the horizon, behind the object and in the East the tip of the visual pyramid lies in front of the object, or in our eyes.

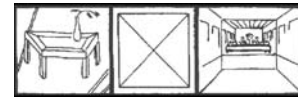


figure 21.

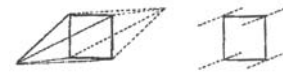


figure 22.

Imaginary space is formed by the movement of a material object: the dynamic Suprematism of the plane and the suprematist straight line. This is a "new expression of space, which is there for as long as the movement lasts and is therefore imaginary." For example, the "suprematist straight line" when dynamically rotated forms the "Standing Wave" kinetic construction (figure 23).

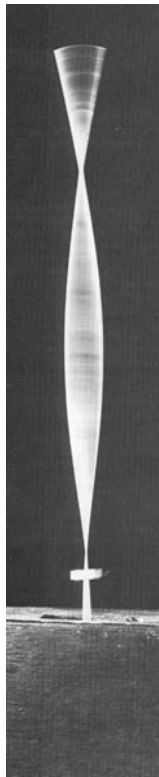


figure 23.
Naum Gabo,
*Standing
Wave*, 1920

Irrational space, on the other hand, is the representation of space whose distances *cannot be measured* by any finite measure: these irrational distances cannot be represented as a determinate ratio of two whole numbers. For example, two areas of different intensities of color, even when lying on the same plane, are perceived by the mind to be at different distances from the eye. In Suprematism, the tip of the visual pyramid extends to infinity by pointing both outward toward the horizon and backward into the deep recesses of the mind (figure 22). This can be seen demonstrated by Lissitzky's Proun orthographic projections (figure 24).

The Proun creates the ultimate illusion of *irrational* space by simultaneously projecting into the foreground and penetrating into the background immeasurable distances. This is a space interchangeable with time that in order to comprehend requires an intense mental operation; so that one becomes so absorbed in one's thoughts that time stands still. Although not specifically stated by either Lissitzky or Malevich, *irrational* space is a space of four dimensions: the Proun's illusion of *irrational* space on the picture plane is the next dimension beyond three-dimensional *perspectival* space which is one step beyond two-dimensional *planimetric* space. *Irrational* space is a "sphere beyond our comprehension" because it cannot be derived "from purely logical construction"—somewhat like the imaginary thing i ($\sqrt{-1} = i$) created by mathematics that, although it is a logical construction (it is the only number when multiplied by itself equals a negative quantity), our minds are incapable of visualizing.



figure 24.
El Lissitzky, *Proun 99*, 1923

The space of the architectural imagination is a transcendental space of four-dimensions where the architect imagines the spatial relationships possible through the mental rotation and spatial transformation of two- and three-dimensional objects. This occurs in the inner landscape of the mind's eye. When lost in thought, when vision is turned inward and becomes blind to the world outside, one's entire body—intellect, soul, and sexuality—transcends the rational and approaches a meditative state where intellectuality, emotionality, and sexuality are merged into an inseparable unity.

⁶⁹ El Lissitzky, "The Negative Square Root of Plus Infinity Minus = Nature," (1924) in *Russia: An Architecture for World Revolution*, 141.

⁷⁰ Henri Bergson, *Creative Evolution* (New York: Henry Holt and Company, 1913), 302.

⁷¹ El Lissitzky, "A. and Pangeometry," in Sophie Lissitzky-Küppers, *El Lissitzky . Life . Letters . Texts* (London: Thames and Hudson, 1968), 352-358.

According to Uspensky, "Art in its highest manifestation is a path to cosmic consciousness."⁷² This *irrational* space is a spiritual place similar to that found in many eastern religious experiences.

In Taoism, for example, one obtains inner vision by looking within with the eyes half-closed to let in light from the outside so that the eyes themselves become the sun and the moon of the inner universe. These two sources of light are to be directed toward the center of the skull where there is a third source of light, which acts like a mirror to reflect the light within. The inner landscape of the mind consists of a lake at the peak of a high mountain in the center in-between the back of the head and the eyebrows. In the middle of the lake stands a palatial building, where there are eight rooms surrounding a ninth, central one. This is the Hall of Light, the house of the calendar of the kings of ancient China. This dwelling unit was based on the model of the universe with a domed roof on a square base, and in which the king was to move from room to room according to spatiotemporal correspondences.⁷³ In Taoism, then, the individual consciousness, as a microcosm of the universal consciousness, is modeled after the ancient Chinese Sky Emperor *T'ai-Yi's* "Nine Palace Halls," which was represented by the *Lo Shu*.



figure 25. Eight Types of Houses, Feng Shui

Ancient China by the end of the third century BC had developed a special affinity for characterizing their world by blocks of nine units with a special emphasis on the central one. For example, traditionally it had been agreed that China was the "Middle Kingdom" at the center of the world, which had anciently been a united nation divided by King Yü into Nine Provinces with the central province being the residence of the supreme ruler. Legend has it that there was a system of feudal landholding in which the rulers had split their domains into square blocks of land, each subdivided into nine equal, smaller squares, of which they assigned the eight outer ones to individual families of serfs to work the land for the benefit of the lord who resided on the land in the central block.⁷⁴ In Old China, through a reductivist system of squares within squares, it seems that the magic square of three had been used to order their world on earth from the macrocosm of "The Celestial Numbers of the Nine Halls" to the microcosm of their immediate environment. So much so, that the *Lo Shu* became the basic theory of the Flying Star School of *Feng Shui*. Furthermore, the Eight Types of Houses Theory makes use of the *kwa*, or the eight Chinese trigrams, to diagnose a home (figure 25).

Feng Shui's counterpart in India is *Vastu Shastra*: which dates back to between 10,000 BC and 5,000 BC. The similarities to ancient China's feudal landholding practices, which were based on the *Lo Shu*, are striking and can be seen demonstrated in the floor plan of the typical Hindu temple (figure 26). *Vastu* means to dwell or to exist and *Shastra* means science. The central core, *Brahmasthan* (belonging to Brahma, the Creator) is always left open to act as the *axis mundi* connecting the space of the temple to the space of the cosmos. The word pyramid literally means "fire at the center," the location of the creative force. The subtle god *Shiva Linga*, representative of the generative force in its creative aspect, is the only god that can occupy the center of the temple.

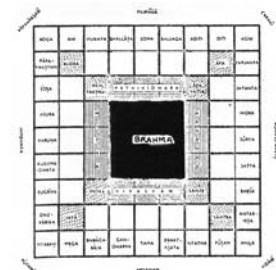


figure 26. Plan, Hindu Temple

The Hindu temple is built in the shape of the Creator's phenomenal image *Purusha*—however, the temple is not merely the home of the Creator, it is also in the form of the Creator. *Purusha* is the essence of man or the physical manifestation of the cosmic consciousness, and is often referred to as the Cosmic Man. The *Purusha* lives within the heart of every individual, and yet at the same time he fills the entire cosmos. Using the *Vastu Purusha Mandala* (figure 27), buildings are oriented with respect to the sun and the rules of orientation apply equally to the layout of villages, cities, and buildings. This is also in accordance with the doctrines of Tantra: the spatial orientation of their temples was intended to serve to create a microcosm in the image of the macrocosm and its governing laws.⁷⁵

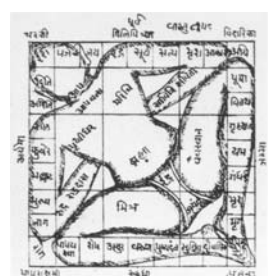


figure 27. Vastu Purusha Mandala

According to Claude Bragdon, because the magic square is a marriage of opposites, the balanced harmony of the *yin* and the *yang* or the *in* and the *yo*, it represents the Divine Androgyne, or *Purusha*. The Divine Androgyne (figure 14) is a representation of unity through duality, the phenomenal image of the noumenal: "in all his parts and functions

⁷² Uspensky, *Tertium Organum*, 339.

⁷³ Kristofer Schipper, "The Inner Landscape," *The Taoist Body* (Berkeley: University of California Press, 1993), 100-112.

⁷⁴ Cammann, 41-44.

⁷⁵ Mookerjee and Khanna, *The Tantric Way*, 86.

perfectly balanced and perpetually self-renewing—immortal and divine."⁷⁶ Those who dwell on earth are the Creator's phenomenal image and the Creator is the individual's noumenal archetype. Since we are limited by being earth-bound, sensing only a reflection of the celestial, the only way we may know that divine archetype is by leaping over the dimensional chasm that separates the two worlds. The way do this is by "developing the fourth form of consciousness, the intuitional, through the practice of Yoga and the intending of the mind upon the archetypal world."⁷⁷ Yoga literally means to yoke, "to join the personal consciousness with its higher-dimensional correlative," the cosmic consciousness or "the world of the wondrous."⁷⁸

The Architectural Imagination: Window to the World of the Wondrous

Intuition deals with life directly, and introduces us into life's own domain: it is related to reason as flame is related to heat. All of the great discoveries in science, all of the great solutions in mathematics, have been the result of a flash of intuition, after long brooding in the mind. Intuition illumines. Intuition is therefore the light which must guide us into that undiscovered country conceded by mathematics, questioned by science, denied by common sense—The Fourth Dimension of Space.

Claude Bragdon, *Four-Dimensional Vistas*⁷⁹

There was a proliferation of literature on Yoga being generated around the world at the turn of the century. The title of Claude Bragdon's first published book, a poem entitled "The Golden Person in the Heart" (1898), was based on the Upanishads, an ancient Indian text of Hindu scripture. He included chapters on Yoga in several of his books, and two books were devoted entirely to Yoga. The Swami Vivekananda gave an "historic address"⁸⁰ at the World's Congress of Religions that was part of the 1893 World Colombian Exposition held in Chicago. Vivekananda lectured widely in the United States in 1895 and 1896, and his book *Raja-Yoga*, compiled from those lectures, was translated and published in Russia in 1906. It was one of many books on Yoga, Theosophy, and related subjects that enjoyed world-wide popularity at that time.

Uspensky's *Tertium Organum*, while not specifically about Yoga refers to the eastern spiritual tradition, and his book *A New Model of the Universe* (1914) has an entire chapter devoted to it. In the introduction to "What is Yoga?" he states that the sciences of Yoga in India were kept secret for a long, long time, however, that had not really been necessary because in order to understand Yoga one must have "direct oral tuition and explanation." The books "may be accessible to all and yet hidden from all except those who know how to read them." According to Uspensky there were five types of Yoga practices, all of which were directed toward the "opening up of higher consciousness." In sum, "*In reality Yoga is the Key to all the ancient wisdom of the East.*"⁸¹

According to Uspensky the window to the "world of the wondrous" can only be opened when one recognizes "the reality of the world of many dimensions." This is an "inner affinity" that comes out of mastering the "fundamental principles of *higher logic*," or "a *space of higher dimensions*." One needs to recognize that the "*duality of the world*" is an unreal condition, and that "the unity of all opposites, is necessary for the comprehension of *higher logic*." "This sensation of *light* and of unlimited joy is experienced at the moment of the expansion of consciousness (the unfoldment of *the mystical lotus* of the Hindu yogi), at the moment of the sensation of infinity, and it yields also the sensation of darkness and of unlimited horror."⁸² Although Uspensky does not identify it as such, perhaps it was one of the mysteries he was unable to uncover while he was in India, because he seems to be referring to the tantric practice of kundalini-yoga whereby one has to die in order to be reborn, or experience the Kundalini awakening.

Kundalini-yoga is literally a consciousness-expanding experience. Tantra is a Sanskrit word derived from the root *tan-*, to expand, and refers to the knowledge of a systematic and scientific experimental method used for the expansion of consciousness.⁸³ The teaching of tantra is based on the concept that reality is unity, an indivisible whole: the male

⁷⁶ Bragdon, *NI*, 173.

⁷⁷ Bragdon, *The Arch Lectures* (New York: Creative Age Press, Inc., 1942), 83. In future footnotes to be referred to as *AL*.

⁷⁸ Bragdon, *AL*, 24. Bragdon attributes the phrase "the world of the wondrous" to Ouspensky. This phrase is indeed found in several places in *Tertium Organum* in reference to the "cosmic consciousness."

⁷⁹ Claude Bragdon, *Four-Dimensional Vistas* (New York: Alfred A. Knopf, 1923), 22. In future footnotes to be referred to as *4DV*.

⁸⁰ Bragdon Family Papers, University of Rochester archives.

⁸¹ P. D. Ouspensky, *A New Model of the Universe* (New York: Alfred A. Knopf, 1934), 242-249.

⁸² Ouspensky, *Tertium Organum*, 265-273.

⁸³ Mookerjee and Khanna, *The Tantric Way*, 9.



THE OCCULT ANATOMY OF THE HUMAN FIGURE

figure 28. by Rahaanii, as found in Claude Bragdon, *Yoga For You*, 1943

one's thoughts remain immersed in lust and greed. The *Purusha* is seen at the fourth chakra, the heart chakra.⁸⁷ Spiritual awakening comes when the mind rises to this center. When the mind rises to the sixth center between the eyebrows, man becomes merged in divine consciousness. The activation of the Ajna chakra gives the initiate inner vision, a simultaneous knowledge of things as they really are, as the "third eye," cosmic consciousness, opens at this center. This is the same location of the Taoist inner landscape of the mind's eye. Reaching the seventh chakra is uniting with Siva and becoming one with the cosmic consciousness. The seventh center is transcendental consciousness, in which one realizes oneness with God.⁸⁸

The *Lo Shu* itself may not be the "window to the world of the wondrous," however, it is very curious that the *Kundalini mandala* (figure 30) is a collaged representation of the coiled serpent prepared to make her ascent together with what appears to be a representation of eight circles surrounding a ninth within eight circles surrounding a ninth within two rotated squares. This could represent the "Palace of the Nine Halls," the eight Chinese *kwa* around a central point or the "Eight Types of Houses," or even the eight *kwa* within lotus petals of the Tibetan Golden Tortoise, which the whole diagram certainly appears to reference. In any event, there appears to be a relationship between the cosmogony represented by the *Lo Shu* magic square of three and the practice of spirituality in the expansion of consciousness with the ability to open the window to the creative imagination.

principle known as *Purusha* (Cosmic Consciousness) conjoined with the female principle *Prakriti* (Cosmic Force of Nature).⁸⁴

The Sanskrit word *kundalini* literally means 'coiled-up'. The coiled Kundalini is represented by the serpent and is the female energy existing in latent form, lying asleep in the first chakra of the human body located at the base of the spine (figure 28). There are seven chakras total, the seventh of which is located outside the skull just above the head. Each chakra is represented by a lotus of different numbers of petals. In tantric art the lotus represents the unfolding of the self and expanding consciousness.

The object of the tantric practice of kundalini-yoga is to awaken this cosmic energy and cause it to unite with Siva, the Pure Consciousness pervading the whole universe.⁸⁵ When kundalini is struck, she awakens, uncoils, and begins to rise upwards like a fiery serpent, breaking upon each chakra as she ascends.⁸⁶ If the body is a temple, then Kundalini is the "fire at the center" of its *axis mundi*. The Kundalini energy does not shoot up in a straight line, but at each stage of its unfolding unties the knots of different energies (figure 29). Each successive unlocking brings transformation.

When the mind is attached to worldliness, consciousness dwells in the three lower chakras. Here there are no high ideals or pure thoughts,

Here there are no high ideals or pure thoughts,

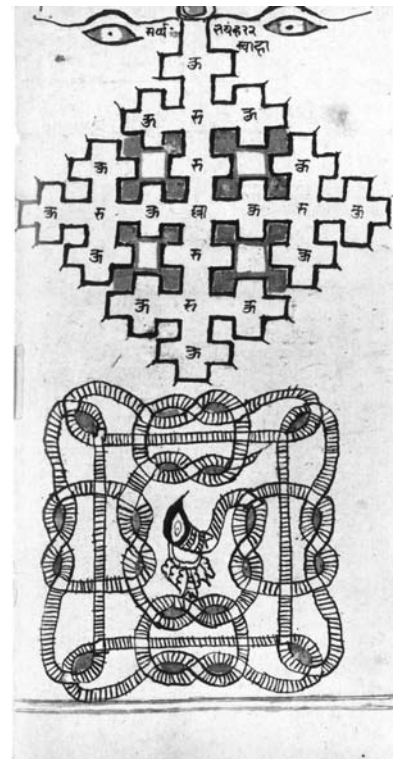


figure 29. *Naga-bandha*—the serpent power in its coiled up, dormant state. Rajasthan, 19th century

⁸⁴ Mookerjee and Khanna, *The Tantric Way*, 15.

⁸⁵ Ajit Mookerjee, *Kundalini: The Arousal of Inner Energy* (Rochester, Vermont: Destiny Books, 1986), 9.

⁸⁶ Mookerjee, *Kundalini*, 24.

⁸⁷ Mookerjee, *Kundalini*, 49.

⁸⁸ Mookerjee, *Kundalini*, 75.

Claude Bragdon's first book, "The Golden Person in the Heart" was published in 1898 and reprinted in 1925 and 1943 shortly before his death, which means that it was an important work to him. After having done this research, it seems to me that Bragdon viewed himself as *Purusha*, the Divine Androgyne at the fourth level of expanding consciousness. It appears that he saw himself as one who was illumined with spiritual awakening, yet one who was still perhaps trying to untie his some of his knots (figure 31). He viewed his work on the fourth dimension to be very relevant to the imagination of the architect: "Consider for example the evolution of a building from its inception to its completion. It exists first of all in the mind of the architect, and there it is indubitably higher-spatial, for he can interpenetrate and examine every part, and he can consider it all at once, viewing it simultaneously from without and from within, just as one would be able to do in a space of four dimensions."⁸⁹ Bragdon's explorations into four dimensional vistas allowed him to view through the magical window to the world of the wondrous.

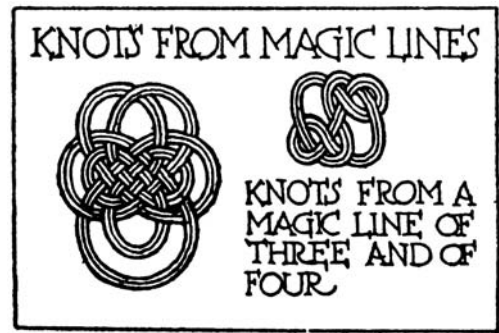


figure 31.
Claude Bragdon, *Projective Ornament*, 1915

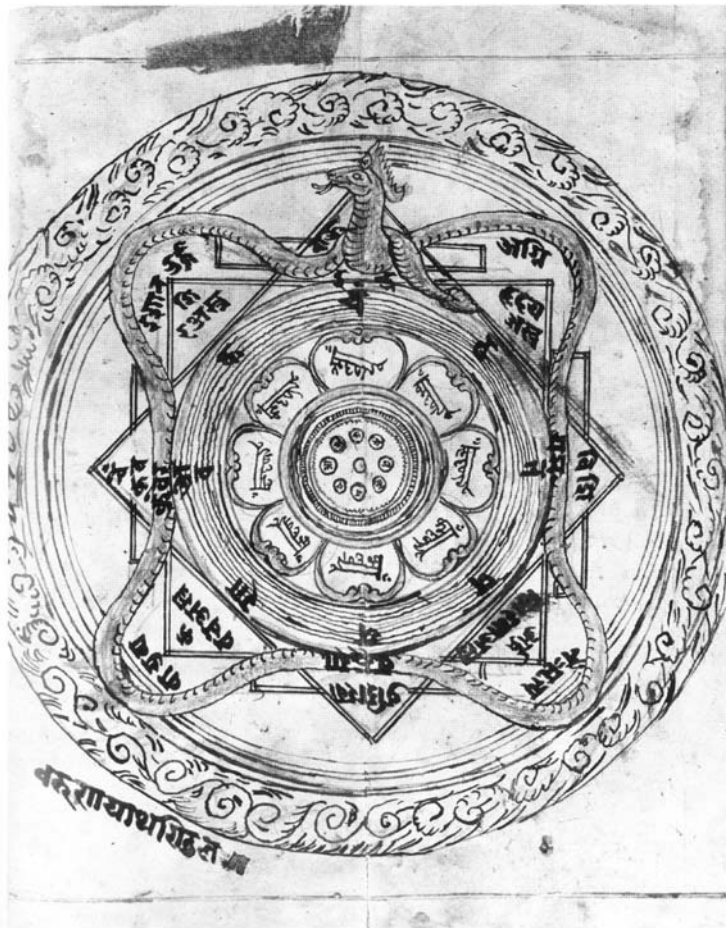


figure 30.
Kundalini mandala, Nepal, c. 1800

⁸⁹ Bragdon, *4DV*, 33-34.