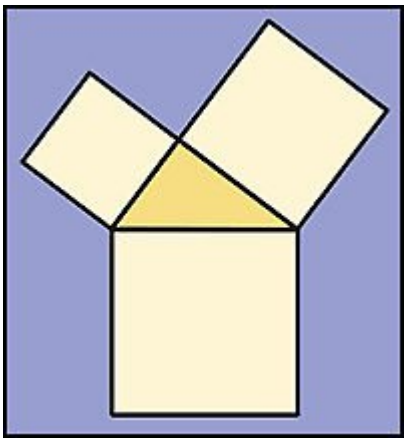
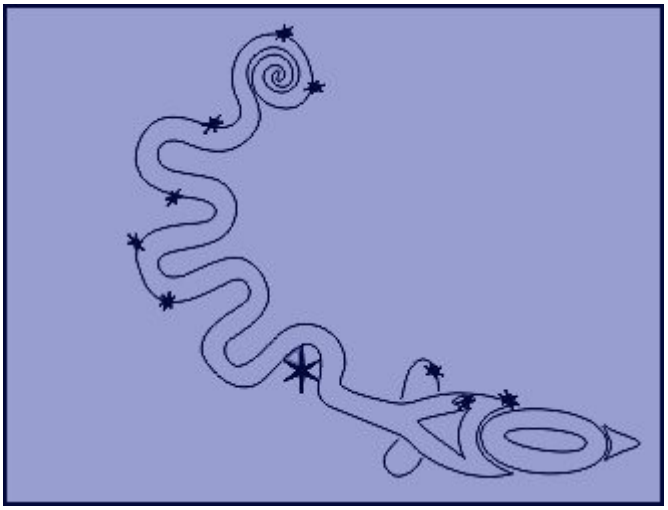
CRYPTOGEOMETRY OF THE OHIO VALLEY
The Python of Pythagoras?





Viewing the Serpent Mound survey as though from high ground to the north, and adding the asterism of Draco for fixation, it takes only the placing of an artificial eye to view the serpentine form as a sort of leviathan or mythical sea serpent in the act of disgorging or swallowing a huge cosmic egg or solar effigy. The large hollow triangle beneath the eye thus becomes a gill slit. With little imagination, the features jutting from either side of the head appear as nicely formed pectoral fins. The small triangular mound at the extreme right may be interpreted as a distended or 'unhinged' lower jaw, common to serpents.

In nearly every country of the civilized world, schoolchildren at one time or another have been familiarized with the *Pythagorean Theorem*. Also called the *47th Proposition of Euclid*, it is the placement of three squares in such a way that a right angle triangle is created among them. But if someone were to tell you that in remotely ancient times this equation was taught possibly using the visual aid of our subject's design, you might laugh. Yet it is not only the famous theorem, but several other key geometric forms may have had the dynamic likeness of our serpent utilized in order to bring home the possible *unity of fo*rm and *arithmetic* to the student of the ancient school. Coupled with their learned astronomy, additional skills in geometry and measure were important areas of study to our ancestors. This is where the understanding of the Great Serpent as a universal template of the ancient sciences begins to take on more substance. For now though, let us examine the Great Serpent Mound's relationship to this ancient axiom of geometry and mathematics

To date, the oldest suspected proof of this theorem is Chinese, and is thought to have shown itself in 1100 B.C.E. in Chou Pei Suan Ching, according to F. J. Swetz and T.I. Kao, in their collaborative effort entitled Was Pythagoras Chinese? In fact, any number of "proofs" for the theorem are claimed to exist from different countries and times. India, Babylonia, Egypt, Greece, and Persia are but a few.

The three squares may be of any size, as long as they form a 90° right triangle. However, the classic Pythagorean method was to show the triangle with sides all expressed in whole numbers. Because the Pythagorean School had not yet developed square roots and fractions (as far as it is known), all such triangles would be termed "Pythagorean." Hence the popularity of the theorem showing sides on its triangle of 3-4-5. Other whole number, right-angled triangles would include 5-12-13, 8-15-17, and 7-24-25, to name a few.

James A. Marshall, noted surveyor of the ancient mound structures throughout the eastern United States, writes that he "has found no evidence that Native Americans knew the Pythagorean Theorem." Whether Mr. Marshall is saying that a 3-4-5 numerical inference has not been found may be another question, for he believes that many of the Hopewell era (200 B.C.E.- 500 C.E.) geometric earthen structures differed from the Pythagorean ideal only in degree. He also theorizes the possible use of the 3-4-5 triangle to create extended straight lines across the landscape.

Marshall may be correct in his statement that there is no visible evidence for the 3-squared theorem, given the understanding of the exhaustive field and research work he has completed. But what if the design of the structure, in this case our Serpent Mound, preceded the Hopewell era by over 2,500 years? Moreover, what if the classic 3-4-5

triangle-with-squares combination is inferred, discoverable through a simple projection or cryptogeometric overlay on the Serpent Mound survey map? To begin with, it would offer the oldest known evidence for the remarkable theorem in spite of its being inferred. The reasons for this, with **corroborating proofs**, will be shown.

However, even the suggestion of the Great Serpent Mound being associated with a culture originating such a proposed erudite and key geometrical icon is annoying to conservative archaeological and anthropological interests. Moreover, some seated academics literally would balk at the notion of such an inference being made, for the suggested timeline is quite prior to the "Woodland Period," which began about 500 B.C.E. It is an old story with a familiar pattern. Because esoteric and philosophic comparisons have rarely been seriously considered an adjunct to Native American archaeological theory and practice, any intellectually adept influence in the Americas is not detectable, much less acceptable. Were all revealed however, Western archaeological interest might be stirred at the prospect of such a unique treasure in its midst. Thus much has need to be accomplished in this area, beginning with a few simple diagrams and explanations.

But first, a few words are in order on the life of the philosopher after whom the renowned theorem took its name.

The name *Pythagoras* is related to have been divined by the Delphinian Oracle's *Pythia*, whom Pythagoras' parents, Mnesarchus and Parthenis, consulted before the child's birth. The female voice of the Pythia strongly influenced the ancient world through her divinely prophetic pronouncements. In the case of Pythagoras, the oracle stated that the child would grow up to be a great sage, surpassing all men in beauty and wisdom. He was named after the already mythical beast *Python*, a giant serpent-dragon, which was itself held to have been the first and primeval Oracle of Gaia, the Earth.

Pythagoras was a great student in his youth, and an even greater professor, starting his teaching career in his mid-fifties. He is held to have been an extensive traveler early on, visiting the furthermost extent of the known inhabited ancient world, gathering many traditions of learning and wisdom. Among his later accomplishments in the arts and sciences, he is credited with being an excellent wordsmith, known to have coined the title *Philosopher*, meaning one who, through love, seeks wisdom. He is therefore known as *The First Philosopher*.

It is conceivable that this proto-philosopher taught or in some way conveyed the knowledge of his broad learning by means of the sacred serpent, his namesake Python, to his trusted disciples. Unlike an architect's 'serpent'—an elongated, flexible template used to trace difficult curvatures—his template would have been a relatively fixed version of an ancient paragon in general science. In this case, his proposed nonpareil would have been the key or "open sesame" to other sealed doors of science and art. Scholars have scratched their heads for centuries, confounded by what has come to be called *The Pythagorean Skein*: the single standard that unravels the whole of his teachings: the great key to the mysteries of the Pythagorean College.

In this thought, we have nothing to compare such an all-purpose treasure with today, nothing in the form of a symbol that unifies the classical sciences and arts as though they are all relative by some golden means. This understanding of something "missing" has some historical resonance as well, for there is little surviving evidence for much of what the great teacher personally accomplished. His life, for what it was worth in the eyes of the world, was reported taken by sinister forces, and his work scattered with his disciples to the four directions.

However, there may be a glimmering of hope in the true spirit of archaeological discovery as concerns the lost mysteries of the Pythagorean School, for a fascinating relationship between our Ohio serpent and the millennia old Theorem is very much evident. Herein is the offering of a possible clue to the shape of the long-lost Python.

The fact is that the Great Serpent's image fits so cunningly into the Sage's famous 3-4-5 theorem (introduced well over 2,000 years ago by the Sage), that it has altered the way our earthen Great Serpent has been commonly perceived. Unseen aspects of the axiom are brought to light when the serpent's presence is projected within. These would constitute "proofs" of the Serpent and Theorem having been in conjunction. In this, Serpent Mound's design seems to have been made specifically for the geometry of the Pythagorean Theorem. This, of course, is in spite of the fact that the Serpent may easily predate the man Pythagoras by a very long time.

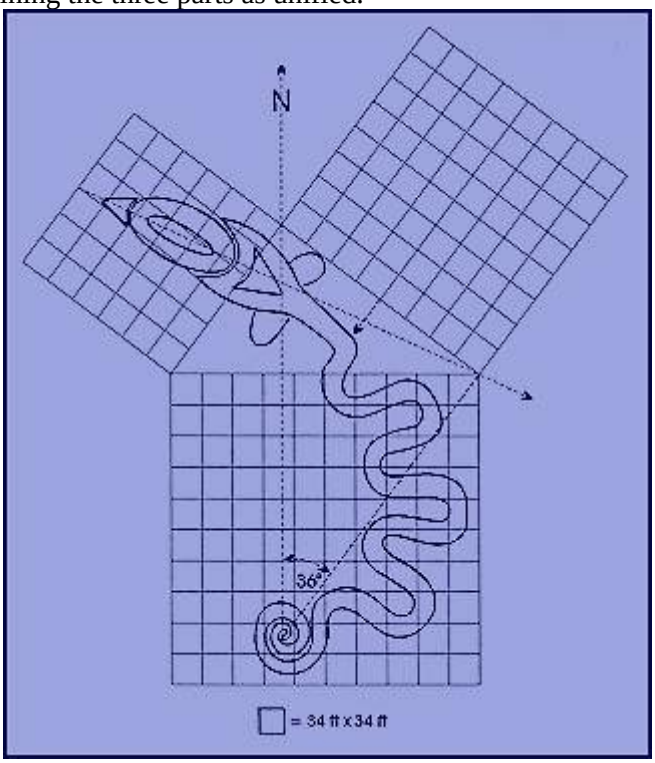
We have seen how the Great Serpent possibly unifies the ancient concept of astronomy (see article entitled The Star Mystery of Ohio's Great Serpent) through bringing together sun, moon and stars—a complete astronomical expression. This in itself is an amazing accomplishment. But now the serpent is saying something else as well. It is saying that it is fully astronomical and geometrical, and in the most classical sense. What better way to express geometry than with the famous Pythagorean equation, for this geometry is very special in that it demonstrates numbers working simultaneously with geometric form, causing them to appear as one and the same. As a template, our Great Serpent may be an intentionally isolated key unlocking the unity of astronomy, geometry and arithmetic. Following logically it will reveal itself as a "yardstick" of measurement as well.

The Python of Pythagoras (a pet name I like to use for this geometry), utilizes Romain's North Star alignment as that line separating the squares forming the right angle of the central triangle. For those of you who aren't familiar with this theorem, it reads:

> *In a triangle owning a 90° angle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.*

The hypotenuse is the longest side of the triangle. To square one of the sides, just make a square using one of the triangle sides as the first of the square' sides. Ideally, the squares are graphed off to be able to calculate and multiply their units. In the classic 3-4-5, the number of units in the two smaller squares (9 + 16) is equal to the number of units in the largest square (25). This underscores the Pythagorean tendency toward whole numbers, and subsequently units of measurement corresponding to suchlike whole numbers.

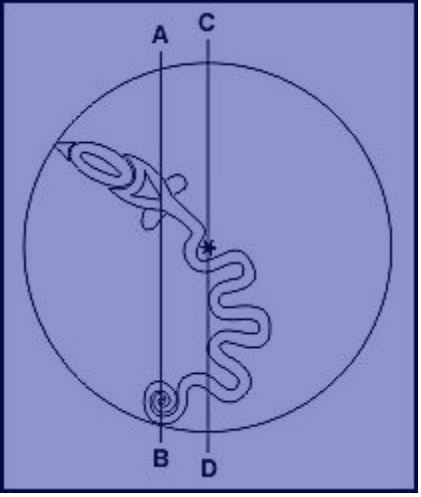
Because this famous theorem is a geometric law, its influence, like that of Pythagoras, goes beyond the flat page of the book it may be imprinted on. It reveals an order balancing three things as though they were actually one owning different aspects. Overall, this little classic has been outstanding in demonstrating the relation that exists between number and form, in its time creating a new element of reason for geomants as well as mathematicians. The theory and practice of very early expressions in chemistry (alchemy) also is believed influenced by this unusual expression explaining the three parts as unified.



For many centuries there has been something missing from the geometry, something unseen that has carried the mysterious fragrance of the secret philosophy of Pythagoras down through the centuries. To this day a sensitive person may view the riddle of the theorem and detect the presence of a certain inexplicable spirit in the figure of the equation—a residue or trace hinting at the knowledge jealously possessed by the elite of science in the last golden age. This something may well be the image of the celestial serpent, template of heavenly Draconis.

The 3-4-5 sides of the famous theorem's triangle are doubled in this example to lend relevance to the serpent overlay. The square of 6, known to the old secret societies as the "Square of the Sun," occupies the upper left of the equation. Since one of the interpretations of the serpent's position is its possibly swallowing or regurgitating the sun, this is an important key. The square of 8, known as the "Square of Mercury," is on the upper right. Mercury, known to some as the Greek God Hermes, carried the message of the light, and thus the neck parallels the square. It is interesting to observe how the neck of the creature turns radically into the lower square of 10 at the midpoint of the 8 square. The square of 10, called the "Square of the Earth," assimilates all. Thus Mercury delivers the message of the Sun to the Earth. Needless to say, such geometry complemented with the likeness of such an illustration within may well have been considered truly "sacred," lending deeper meaning to an otherwise plane geometrical formula.

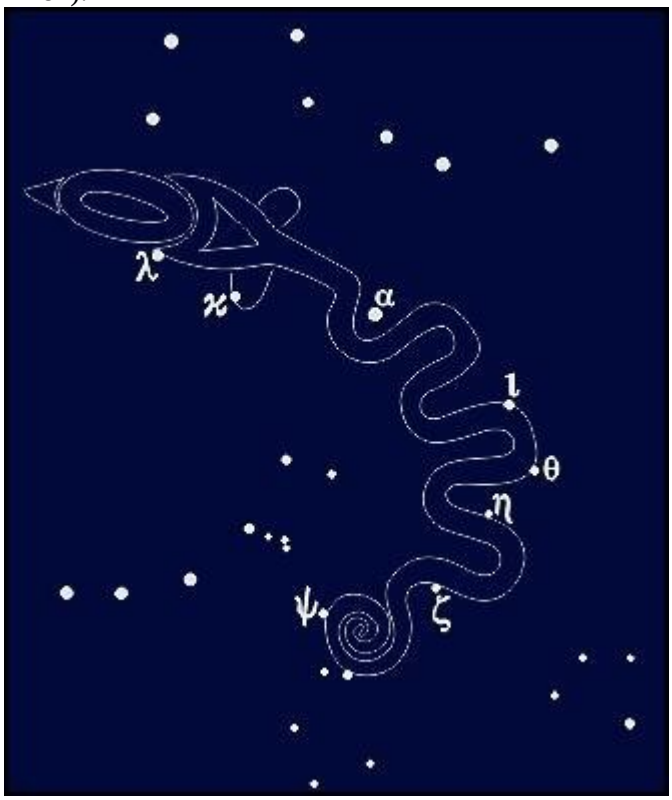
The Python of Pythagoras is exceptional in that it combines astronomy with geometry and measure to a very high degree of didactic art. It is extraordinarily sophisticated, yet deceptively simple. Romain's North Star line, running



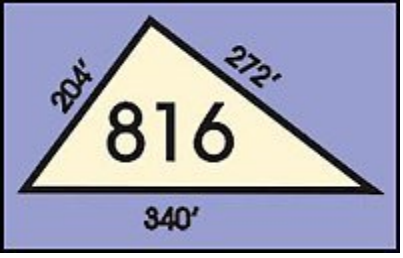
from the tip of the tail to the eastern apex of the hollow triangular feature, perfectly separates the 6 and 8 squares. The small triangular feature, long a mystery in that it does not point to any known geo-astronomical or earthbound phenomenon, appears to point out the specific center of the west side of the six square—the Square of the Sun. A line extended from the southeast side of the square of 8 meets the tip of the serpent's tail, forming a perfect 36° angle. There are other interesting features as well constituting additional "proofs," and some perhaps undiscovered as yet.

Line AB defines Romain's Polaris alignment, i.e., true astronomical south. Line CD shows a possible true south alignment were Thuban used in the design conception of the Great Serpent in the third millennium B.C.E. The star beneath the seventh coil from the tail is indicative of Thuban, now called Draconis-alpha, the North Star preceding Polaris. Because this cosmology would have been truly "circumpolar" (within 30 degrees of true astronomical north), the possibility of a worldwide understanding of the Great Serpent's design is feasible, at least in the Northern Hemisphere. Thuban is at the precise center of the figure, and so both parts of the serpent touching the circle created from it are of equal distance from Thuban.

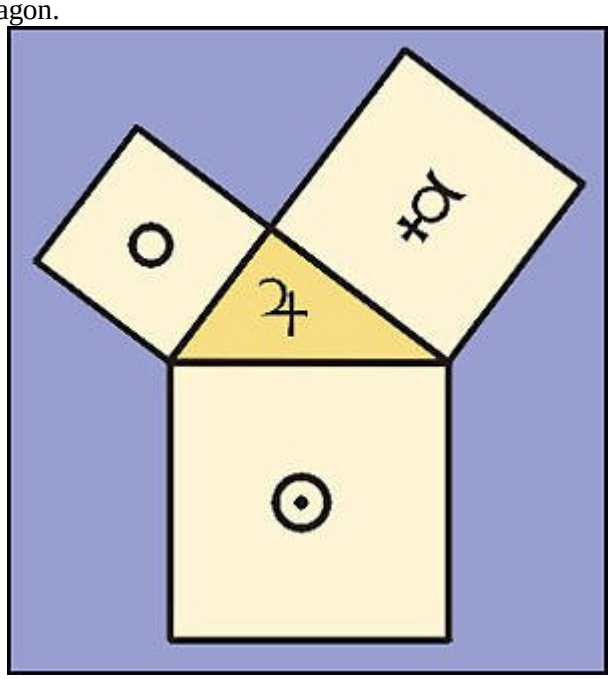
Astronomical science enjoins the application of Greek symbols to the various important stars of constellations. Thuban, classified **Draconis-alpha**, appears deliberately situated inside the seventh coil from the tail end of the effigy. There are 15 prominent stars in Draco, not including Thuban, and five of them (viz. Iota, Theta, Eta, Zeta and Psi) touch the tail or lower body of the serpent. In the Revelation to John, 12:4, we read that the tail of the celestial serpent swept one-third of the stars from the sky and hurled them to the ground. This may be an interesting reference of relating to the earth and measurement i.e., "geo-metry," that which is astronomical (Hamilton, after Romain, Moore and Tirion).



Since the geometric star chronology (the *Circle of Thuban*) of Serpent Mound predates the man Pythagoras by a very long time, one is caused to consider what seems unthinkable. Not only did Pythagoras inherit the priceless theorem from a far more ancient source, but our illustrious serpent is none other than the image of *Python*, after which Pythagoras took his name. Since we know that the philosopher was a great mathematical and geometric innovator, it stands to reason that he may somehow have come across this equation intact with its original tool-ruler, i.e., the *Great Serpent*. In fact, he may have somehow inherited a very rich tradition of astronomy, geometry, metrology and mathematics in general from a resource as yet unknown. What's more, he successfully encapsulated it all, with few suspecting that he was a link in the golden chain of the ancient wisdom. What was the first philosopher's source of information? The answer to this question may well lead us right back to the design of the Great Serpent Mound.



The serpent-theorem geometry offers several proofs of the earthwork's design being associated with the ancient axiom credited to Pythagoras. The length of the foot, in a decimal form, dominates many of the serpent Mound geometric comparisons. In this case, the three sides of the triangle are expressed in terms of whole feet, combining their lengths of 204, 272, and 340 feet to make 816. This figure of 816 is repeated in another geometry featuring the serpent's design, that of the hexagon.



The figure above shows the "astrological" symbols identifying the three squares. Such disguises or devices were employed by the Pythagoreans and other similar groups throughout history in order to maintain secrecy through code. The square of 6's symbol on the upper left is that for the "Sun;" the square of 8 on the right is holding the symbol for "Mercury;" and the lower square holds the symbol for "the Earth." In the center is the symbol for "Jupiter", which, although not depicted in its square form, governs the numerical attributes of the three sides as they join to form the central triangle, specifically, the number 34. Considered by some to be the three most important divinities in support of Jupiter (Zeus), Apollo, Mercury (Hermes), and Ceres (Demeter), as a trio stand for three stable principles of classical era "Olympian" philosophy.

A Philosophical and Spiritual Connection to the Serpent-Theorem

The well-known contemporary philosopher and author, Manly Palmer Hall, founder of the Los Angeles-based Philosophical Research Society, spent considerable time illuminating the prominent aspects of the life and work of the great sage Pythagoras for modern readers. He devotes a considerable effort in his magnum opus to the knowledge believed by various investigators to be contained in and imparted through the ingenious discovery of the Pythagorean Theorem. Quoting the Greek biographer Plutarch (C.E. 46-120) Hall writes:

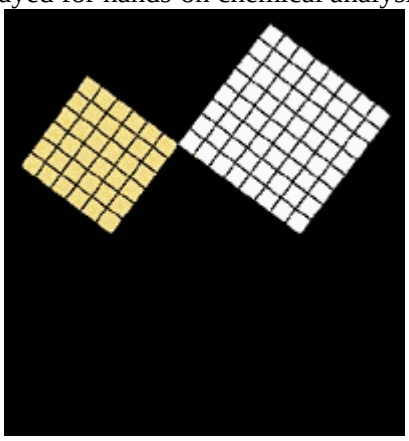
> *Now universal nature, in its utmost and most perfect extent, may be considered as made up of these three things: of Intelligence, of Matter, and of that which is the result of both these, in the Greek language called Kosmos, a word which equally signifies either beauty and order or the world itself.*

Plutrach goes on to explain how Plato himself used the same understanding of the three-fold theorem in a comparison to the Father, the Mother, and the Offspring, implying the action of generation, and the nuptials associated with love's procreation.

The Great Serpent is, coincidentally, at times likened to a spermatic entity entering into a union or conjunction with an egg—perhaps the ultimate spiritual chemistry.

There are some obvious spiritual-philosophical interpretations of the serpent and the ellipse, perhaps the most prominent being the idea of the creature as a mercurial deity, swallowing up the sulfur, a solar manifestation. Sulfur and mercury combined produce cinnabar, a legendary mineral compound known for its black-gray powder or red

crystals. The making of cinnabar was a popular discipline. Early chemical treatises speak often of its compounding as related to the creation of "the Philosopher's Stone." The interpretation of creating cinnabar was believed as no better portrayed for hands-on chemical analysis than in the Pythagorean Theorem combination.



Sulfur And Mercury Creating Cinnabar

In the theorem, the upper left square's smaller squares added together with the upper right's squares equals the number of squares in the base square. In this example, the square of 6 has 36 squares and is meant to represent the "solar" element, sulfur. Adding these to the 64 smaller squares in the square of 8 (mercury) equals the number of squares in the square of 10 below, "earth." Thus sulfur added to mercury creates cinnabar. In ancient Egypt, one root term believed responsible for *alchemy* meant "black earth," the crude stage of mercury combining with sulfur.

By some special coincidence that seems to relate the elements of sulfur and mercury to these squares' names, the formula for producing cinnabar was interpreted as derived from this arithmetical and geometrical form. In this example, it is complemented by the "image of the beast" swallowing or giving forth something. This 'swallowing' and 'regurgitating' is restated in the classical Latin term "*solve et coagula*," meaning obviously to dissolve and then re-coagulate. The effigy's head is in association with something believed by many to be a solar representation. Its neck follows the square of 8, abruptly turning into the square of 10, where the "digestion" is made complete. Cinnabar of the divine variety has been referred to as *Adamic Earth*: that from which man was fashioned, a pure material. In this interpretation, the reasons for the serpent being directly associated with the ellipse become rather esoteric.

For this reason, the effigy may also be seen as regurgitating something termed both the Orphic Egg and the Egg of Brahma. Like the bee that swallows pollen and nectar only to regurgitate honey, perhaps the Great Serpent may be seen as both destroyer and creator of the human soul, for both the above mentioned Eggs signified to their respective ancient schools the matrix enclosing the emerging creation, Man.

> *In Indian symbolism the serpent—especially the Great Serpent—corroborates other evidence pointing to the presence of the Mysteries on the North American Continent... Moreover, who can doubt the presence of the secret doctrine in the Americas when he gazes upon the great serpent mound in Adams County, Ohio, where the huge reptile is represented as disgorging the Egg of Existence?*
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> Manly Palmer Hall
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> Los Angeles, 1928

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