Four

# The Aubrey Holes at Stonehenge

Though the Saxon "Stonehenge" means simply "hanging stones,"[1] the earlier "Stanenges" (Stanheng, Stanhenge, Stanhenges) has been variously derived from the Old English for "stone" and either "hencg" meaning "hinge" or "hen(c)gen," the type of three-part gallows that consisted of two poles and a crosspiece and that appears on Trump 12, The Hanged Man.[2] This similarity to a gallows was noticed by Lucas de Heere as early as 1573–1575.[3] Hawkins mentions a theory that criminals were actually hung from the lintels.[4] De Santillana reproduces a medieval woodcut of a similar wooden construction, from which hangs a rope and plumb bob, being used by a shepherd to sight the culmination of Cassiopeia.[5] Culmination is the point at which a star crosses the meridian or hour circle of the location in question and marks its highest altitude. The word comes from Latin "culminare," to crown. We will find out later exactly who is being crowned. For the present, we find ourselves in the same cultural milieu represented by the Tarot deck.

The Aubrey Holes consist of 56 filled-in pits, arranged in a circle 87.8 meters across, which average 76 cm wide and 106 cm deep.[6] They were discovered by John Aubrey during the 1660s, when they may have appeared as slight depressions in the ground.[7] In 1920 William Hawley rediscovered them using Aubrey's notes.[8] Among numerous funereal remains found by Hawley was a carved chalk ball which Hawkins sees as some kind of marker.[9] It is important to remember that the holes were dug during the first phase of construction at Stonehenge and are just inside the circular ditch and banks that were created during the same period. Phase I also saw the erecting of the Heel Stone and the digging of various postholes and stone holes.[10] We may discern from their early presence a direct link between the Aubrey Holes and the primary motive for construction at the site. We might also infer the origin of a developmental progression from a simpler to a more complex use represented by the sarsen circle and blue stones of Phase III. With

these concepts in mind, let us briefly examine the theories that have
been put forward to explain this enigmatic ring.

Professor Gerald Hawkins has suggested that the Aubrey Holes
were used as an eclipse predictor. He bases this theory on the fact that
the entire lunar orbit, including the two nodes at which eclipses occur,
rotates relative to the fixed stars every 18.61 years. Thus any even multi-
ple of this figure might be useful in the prediction of eclipses. Fifty-six
is the closest integer to 3 × 18.61. According to John E. Wood, the major
flaw in Hawkins' theory is that eclipses do not actually repeat on a
56-year cycle,[11] and in order to make the system work at all, it is
necessary to keep a close watch on the moon.[12]

Sir Fred Hoyle also sees in the Aubrey Holes a device for
calculating eclipses, both lunar and solar. His approach is less numer-
ological and more observational than Hawkins'. Hoyle, in effect, sees
the circle of holes as a kind of quantized representation of the ecliptic.
Markers are used to represent the sun, the moon and the nodes of the
lunar orbit. The solar marker is moved two holes counterclockwise
every 13 days, completing an entire revolution in 364 days. The lunar
marker is moved two holes in the same direction every day, completing
a revolution in 28 days. The hypothetical nodal markers (or pieces?)
move three notches clockwise every year.[13]

Various objections have been raised to Hoyle's theory. The most
telling is that there are easier ways to predict an eclipse.[14] As we shall
see, he has come remarkably close to what I believe to be a more ac-
curate interpretation of the Aubrey Circle. It is a tribute to the man's
genius that he has done so using a much more limited number of
sources than I have.

The most obvious flaw in Hoyle's theory is the lack of precision.
Twenty-eight is not a very good approximation to the more correct
27 ⅓. There is also a lack of smoothness in the way the markers move
around the circle. Various devices have been suggested that attempt to
solve the first of these problems, none of which is intellectually satisfy-
ing. No one seems to have noticed the second problem.

Hawkins and Hoyle have made the same assumption. Both have
taken the circle to represent an entire cycle. It seems never to have oc-
curred to anyone that it might stand for only a part of a cycle. But then
no one until now has had access to a reconstructed and illustrated ver-
sion of a similar system.

As was mentioned earlier, *pachisi* is classed with the cross and circle
games which consist of a ring of holes or pits, often 20 in number, plus
a central cross of the same nature running horizontally and vertically.[15]

It will be easier to grasp the following discussion if the reader thinks of the outer track of the *pachisi* board as a circle of 56 holes divided into unequal sections by 12 marks.

Taking Hoyle's value of 2 holes every 13 days, it is obvious from Figure 8 that the twelve marks divide the circle into repeating cycles of 26, 39, 26, 26, 39, 26... days. The unevenness of these values is far beyond anything found in the historical record. We could move our month markers to more evenly spaced positions. This would result in months of 32½, 26, 32½, 32½, 26, 32½... days. No historian of calendars would recognize these months either, and we are still left with the moderately inaccurate sidereal month of 28 days. Either there is no connection between Stonehenge and our reconstructed astrologer's board with its built-in months, or there is another way to read the data.

The reader may have wondered earlier why so much attention was paid to the *I Ching* and its binary structure when there are other more accessible square zodiacs. Indeed, the entire section might have been eliminated and the search for the four kings taken up at their appearance in the Tarot deck. The reason for this unusual emphasis was the existence of a closely related Chinese system of divination which has been directly linked to the solar calendar. This system, created within fifty years or so of the assassination of Julius Caesar, not only is not shrouded in the mists of prehistory, but appears to be an amalgamation or hybridization of the 28-square *chaturanga-I Ching*-diviner's board zodiac with certain elements of the 56-square *pachisi*-Tarot-Stonehenge zodiac.

The *T'ai Hsuan Ching* was invented by the astronomer Yang Hsiung (c. 53 B.C.–A.D. 18), probably sometime between the total eclipse of October 23, 25 B.C., and that of November 23, A.D. 2.[16] It consists of 81 *shou* or tetragrams laid out in the form of a 9 × 9 Japanese chessboard.[17] Unlike the *I Ching* hexagrams, the *shou* consist of lines that are either solid, broken in two or broken into three parts. Thus while the *I Ching* represents the binary numbers from zero to 63 expressed as six digits, the *T'ai Hsuan Ching* represents the trinary or base three numbers from zero to 80 expressed as four digits. (See Figure 9.)

Yang Hsiung divided each *shou* or "chief" into nine *tsan* or "assistants," making a total of 729 *tsan* in all. According to Derek Walters, who has provided us with a complete translation of the *T'ai Hsuan* into English, this was done to facilitate their use as a calendar. Walters credits Yang with setting each *tsan* equal to one half day.[18] Thus while 28 of the *I Ching* hexagrams represent the lunar zodiac, the

| 0022 | 0122 | 0222 | 1022 | 1122 | 1222 | 2022 | 2122 | 2222 |
|------|------|------|------|------|------|------|------|------|
| (8)  | (17) | (26) | (35) | (44) | (53) | (62) | (71) | (80) |
| 0021 | 0121 | 0221 | 1021 | 1121 | 1221 | 2021 | 2121 | 2221 |
| (7)  | (16) | (25) | (34) | (43) | (52) | (61) | (70) | (79) |
| 0020 | 0120 | 0220 | 1020 | 1120 | 1220 | 2020 | 2120 | 2220 |
| (6)  | (15) | (24) | (33) | (42) | (51) | (60) | (69) | (78) |
| 0012 | 0112 | 0212 | 1012 | 1112 | 1212 | 2012 | 2112 | 2212 |
| (5)  | (14) | (23) | (32) | (41) | (50) | (59) | (68) | (77) |
| 0011 | 0111 | 0211 | 1011 | 1111 | 1211 | 2011 | 2111 | 2211 |
| (4)  | (13) | (22) | (31) | (40) | (49) | (58) | (67) | (76) |
| 0010 | 0110 | 0210 | 1010 | 1110 | 1210 | 2010 | 2110 | 2210 |
| (3)  | (12) | (21) | (30) | (39) | (48) | (57) | (66) | (75) |
| 0002 | 0102 | 0202 | 1002 | 1102 | 1202 | 2002 | 2102 | 2202 |
| (2)  | (11) | (20) | (29) | (38) | (47) | (56) | (65) | (74) |
| 0001 | 0101 | 0201 | 1001 | 1101 | 1201 | 2001 | 2101 | 2201 |
| (1)  | (10) | (19) | (28) | (37) | (46) | (55) | (64) | (73) |
| 0000 | 0100 | 0200 | 1000 | 1100 | 1200 | 2000 | 2100 | 2200 |
| (0)  | (9)  | (18) | (27) | (36) | (45) | (54) | (63) | (72) |

**Figure 9: The *T'ai Hsuan Ching* Tetragrams Expressed as Trinary Numbers (Decimal Equivalents)**

entire *T'ai Hsuan Ching* would constitute an approximate solar year of 364½ days. This 12-hour unit of solar time will prove to be the key to understanding the 56-unit circle used at Stonehenge.

Walters denies that the *T'ai Hsuan* was ever used as a lunar calendar since the number of months in a lunar year varies between 12 and 13, each month beginning with a new moon. These are the synodic months, based on the phases of the moon, familiar to the West from the Hebrew and Moslem calendars and the calculation of Easter. There is another, sidereal, lunar month, which follows the path of the moon through the zodiac and takes 27⅓ days rather than the 29½ of the synodic month. To discard the synodic in favor of the sidereal month is to solve the age old problem of aligning the solar year with the lunar month. Any calendar which covers the period of a year can just as easily be matched to a single lunar revolution relative to the fixed stars. In the case of the *T'ai Hsuan Ching,* the trick is simply to find a period reasonably close to 27⅓ days which is evenly divisible by 729.

Assuming a 60-minute hour, the unit that gives the best fit is 54 minutes: 729 × 54 min. = 27.3375 days. Not only is this an excellent approximation but the number 54 itself brings us into contact with a

certain numerological motif well known from Hindu religion. We will not immerse ourselves at present in the Indian manifestations of this number and its double, 108, but will return to them later when we shine our torch on the origins of the Tetragrammaton.

There is little doubt that the 729 unit calendar of Yang Hsiung, as well as other related systems, can in principle be extended to cover the sidereal lunar month; but is there any evidence that this was actually done in antiquity? I stumbled upon the answer to this question quite by accident. Though he denies its use as a lunar calendar, Walters sees in one of the *shou* of the *T'ai Hsuan* the record of a solar eclipse which occurred on October 23, 25 B.C.[19] Since such events only occur at the new moon, when both bodies are at the same place in the zodiac, the merging of the two cycles in a single calendar might be useful in predicting such eclipses. I was curious to see how accurate a synodic month, new moon to new moon, was generated by our sidereal approximation of 27.3375 days.

The distance travelled by the moon in a synodic month is once through the zodiac plus however far the sun has travelled in the interim. A good analogy is the minute hand of a clock, which leaves the hour hand behind at twelve noon, rotates once around the face, and catches up with it again shortly after 1:05. If we remember that both motions require the same amount of time (i.e. one synodic month), we can write a short equation that defines the phenomenon:

$$(N \times S) = R + (N \times L) \qquad\qquad \textbf{1}$$

where S = the solar unit = 12 hours = 720 minutes
     L = the lunar unit = 54 minutes
     R = the sidereal month = 56L = 27.3375 days = 39366 minutes
     N = the number of solar units in 1 synodic month
       = the number of lunar units in 1 synodic month minus 1 sidereal month

Solving for N:

$$(N \times S) - (N \times L) = R \qquad\qquad \textbf{2}$$
$$(S - L) \times N = R \qquad\qquad \textbf{3}$$
$$N = \frac{R}{(S - L)} \qquad\qquad \textbf{4}$$

$$N = \frac{39366 \text{ min.}}{(720 \text{ min.} - 54 \text{ min.})} \qquad\qquad 5$$

$$N = \frac{39366 \text{ min.}}{666 \text{ min.}} \qquad\qquad 6$$

$$N = 59.108108\ldots \qquad\qquad 7$$

Multiplying N by the solar unit:

$$N \times S = 59.108108\ldots \times 0.5 \text{ days}$$
$$= 29.554054\ldots \text{ days}$$

Note the quantity that appears in the denominator in line **6**: 666 minutes is what we may call the solar-lunar differential and expresses the difference in ideal velocities between the sun and moon relative to the zodiac. Lest the reader think this is merely a coincidence I would beg he consider the following.

When I began this study I intended to avoid any reference to modern Western religions. After all, why make more enemies than you have to? There is no foretelling, however, where one's data will lead and we have come to a datum that, as far as I have presently determined, has only survived in that most enigmatic of all books of the Hebrew and Christian canons, *The Revelation of St. John the Divine.* There is no doubt that the primary nature of this book is prognosticatory and deals with the events that were thought to precede the end of the world. From the repeated references to the city of Babylon there can be little doubt that the primary nature of this eschaton was astrological. We may even recognize the "four beasts" as our widely travelled four signs of the zodiac, Taurus, Leo, Scorpio and Aquarius.[20] What is surprising about the book is that it contains no description of the actual mechanism of the destruction. For this we must turn to the contemporaneous ideas of the Mithraics.

In the very paragraph where he identifies the four horses of the chariot of Mithra with the four elements of ancient cosmology, which we may now associate with the Four Horsemen of the Apocalypse, Franz Cumont describes how the chariot becomes involved in the destruction of the world:

The quadriga turns slowly and unimpeded, regularly completing its eternal course. But at a certain moment the fiery breath of the first horse falling upon the fourth ignites its mane, and its neighbor, exhausted by its efforts, inundates it with torrents of perspiration. . . . The accidents which befall the last-mentioned horse, the earth, represent the conflagrations and inundations which have desolated and will in the future desolate our world; and the victory of the first horse is the symbolic image of the final conflict that shall destroy the existing order of all things.

There have been numerous attempts to explain the significance of the number 666 found in the *Book of Revelation.* Most involve some form of Cabalistic substitution of letters for numbers to form the name of one or another historical personage. The most ingenious of these was concocted by Robert Graves who used the equivalent Roman numeral (DCLXVI) as the initial letters of the *titulus* Domitius Caesar Legatos Xti Violenter Interfecit. It never occurred to anyone that it might be a quantity of units connected with the astrological prediction of the end of the world so cryptically described by St. John. As an expression of the relative velocities of the sun and the moon, it is not terribly surprising to find this figure in a narrative containing, among other astrological clues, a black sun and a blood red moon,[21] from which we can only infer a solar and a lunar eclipse. As for the term "beast" I can only remind the reader of the origin of the word "zodiac," which may be traced to the Greek *zoion* meaning a living being or figure, a relative of the word *zoe* meaning life. Having determined, via the solar-lunar differential 666 minutes, that the number 729 was indeed used to represent both the yearly cycle of the sun and the monthly cycle of the moon, we may now return to the Aubrey Circle and its interpretation using the Tarot board.

Armed with what has just been learned we again refer to Figure 8 (page 27). According to Robert Graves the British jurist Sir William Blackstone defined a common-law lunar month as 28 days.[22] Applying Yang Hsiung's solar unit of one half day per square we immediately see that one rotation of the astrologer's board would be equal to one of these 28-day "lunar" months. Yang's unit produces another enlightening phenomenon. Counting from any of the 12 month marks, making one complete revolution of the board *and then continuing on to the next mark,* in a manner not totally unlike the previous analogy of a clock, we find that the distance from one month mark to the next is always either thirty or thirty-one days. Furthermore, these months repeat in a cycle of 30, 31, 30, 30, 31, 30 . . . days, totalling 364 days or 728 units, one less than

Yang's 729, for an entire year. I would venture to guess that this sequence is beginning to look familiar to some of my readers. When Graves suggests that the term "a year and a day" originally meant thirteen 28-day months plus an extra day[23] ($[28 \times 13] + 1 = 365$), we may begin to suspect the function of The Fool. Since Graves places the extra day somewhere near the winter solstice it is not surprising to learn that the Saturnalia was sometimes known as the Feast of Fools.[24]

The 364-day "week-year" was supposedly introduced into England during the seventh and eighth centuries by invading Scandinavian tribes. It consisted of 364 days or 52 even weeks. The year was divided into summer and winter which began around the vernal and autumnal equinoxes respectively. The Celts used a similar calendar, dividing the year into 13-week seasons and celebrating the New Year on November first.[25] As with other areas of the present investigation, the northern even-week year comes from a time so close to the limit of our knowledge that it is difficult to explore its ramifications in situ, and we must turn to similar systems which appeared later on in the major centers of ancient civilization.

Sometime prior to 110 B.C.,[26] the pseudonymous author of *The Book of the Courses of the Heavenly Luminaries,* more commonly known as the 72nd through 82nd chapters of *The First Book of Enoch,* divided the year into four seasons of 91 days each and further divided each season into three months of 30, 30 and 31 days.[27] Though "Enoch" makes no mention of an "intercalary day each year, and one every fourth year," Wieseler, whose theory is noted by R.H. Charles, suggests that such a system of intercalations was used.[28] Some major peculiarities have crept into Enoch's calendar, the strangest of which is his placement of the equinoxes and solstices at the ends of the 31-day months.[29] This appears to be a result of his prejudice towards the Babylonian 30-day month, which he further divides into 12 parts of 60 hours each. According to Graves he actually placed a curse on anyone who didn't use such a month.[30] Twelve of these months make a year of 360 days over each of which rules a *chiliarch,* which Charles calls a "luminary" rather than an angel.[31] These are ruled over by 12 "leaders of the months," which in turn fall under the "four leaders which divide the year." The four dividers, who are obvious descendants of the four kings though they no longer align with the four royal stars, preside over the four intercalary days beyond 360 and are called Milki'el, Hel'emmelek, Mel'ejal and Narel.[32]

After finishing the above and while collating data for the section on The Emperor, which deals with various misinterpretations of the

god Saturn-Cronus, including those of Immanuel Velikovsky and his followers, I stumbled upon a paper by Alban Wall in the pages of the "interdisciplinary" (read Velikovskian) journal *Kronos,* which largely confirms my position vis-à-vis the Aubrey Circle.[33]

Never having connected Stonehenge with the Tarot deck or *pachisi* board, Wall's approach remains almost purely theoretical. His main historical justification consists of a round Roman calendar which was carved in stone sometime prior to the Christian era. Among other devices the stone contains a circle of 24 peg holes each of which represents 15 days or one half of a standard 30-day month. By analogy, he contends that each Aubrey hole stands for one half day. Like Graves before him, he calls 28 days a "month," though his evidence is weaker than Graves'. In reference to the division of the circle into four even weeks, Wall calls our attention to a fact that relates directly to our investigation. He points out that although the holes are not always identically spaced, the eight that are officially designated as 56, 7, 14, 21, 28, 35, 42 and 49 are so closely aligned that when diameters are drawn between opposite pairs they all intersect at the same precisely defined point. If The Emperor is aligned with the Heel Stone, over which Regulus heliacally rose toward the end of the third millennium (see Chapter Five), each of the eight holes falls at the beginning of one of the eight segments of the Tarot cross.

Short of an understandable desire to have his markers revolve clockwise, Wall's solar "clock calendar" is virtually identical to our own. The only significant difference is his accurate positioning of the equinoxes near, but not at, their nominal locations halfway between the solstices. Like Graves, he places the extra day or two just prior to the winter solstice. Like almost everyone else who has looked at Stonehenge analytically, he assumes that the primary orientation at the site was toward the summer solstice sunrise, which doesn't precess, rather than the heliacal risings of certain fixed stars, which do. He uses this misconception, along with the effect of the "change in the obliquity of the ecliptic" on the alignment of the sun with the Heel Stone, to lop 2000 years off the date of the site, in line with Velikovsky's catastrophe theory. The solution to this problem has already been mentioned. It is the alignment of the monument with Regulus, which places it back in the proper time frame.

To what extent the various nine-cubed systems are related may be judged by appeal to a device used by Joseph Needham. Though expressed in less precisely defined terms, it is Needham's contention that the degree of confidence with which the appearance of the same

discovery in different cultures may be ascribed to diffusion is directly proportional to the amount of time that has elapsed between the two events.[34] This principle certainly applies to the 728-unit year that appears at Stonehenge during the third millennium and in the Middle East prior to the first century B.C. Ronan, who is currently abridging Needham's work, would consider the century or so between Enoch and Yang Hsiung too short for diffusion to have occurred, though it is certainly interesting how this nondiffusion always seems to take about a century.[35] Since, in either event, the culture of classical Greece lies directly between megalithic Europe and the Maccabean kingdom of the eastern Mediterranean, both geographically and chronologically, it would indeed be surprising if we did not find some indication of this system in the writings of the Greek philosophers.