

A CRITICAL REVIEW OF "PROTO STONEHENGE" ROBIN HEATH

Robin Heath, in his book *"Proto Stonehenge in Wales"* (2014) Bluestone Press, proposes that he has found in the Preseli Hills of West Wales, a series of large interlocking 3:4:5: and 5:12:13 triangles. When multiplied together with their unit length, the triangles demonstrate a high degree of practical megalithic science, which integrates the cycles and rhythms of the sky.

Similarly, I have just released a booklet entitled *"Astronomy and Measurement in Megalithic Architecture"* (2015) Northern Earth Books, which contains the results of 40 years of research with Norman Stockdale, into similar megalithic sites but using a different unit of length.

We are all agreed that a number of megalithic sites used lengths that, when transformed within circular and triangular geometries, contained a religious or astronomical or numerical symbolism. However, our results and methods of research differ from Heath's. Consequently that poses questions about whether our differing methods of investigation influence the outcome of our research. It also questions whether two entirely different unit lengths were used, either together or separately, by the megalithic designers. Therefore, it is our research methods and unit-measurements that this article will focus on.

Robin Heath uses the standard unit of length as proposed by Professor Thom, the Megalithic Yard MY, of 2.72 feet. We on the other hand propose a different unit of length, the Megalithic Foot (MF), of 14.142 inches.

(Full discussion on Thom's measurement. Harris and Stockdale (2015:11/24.)

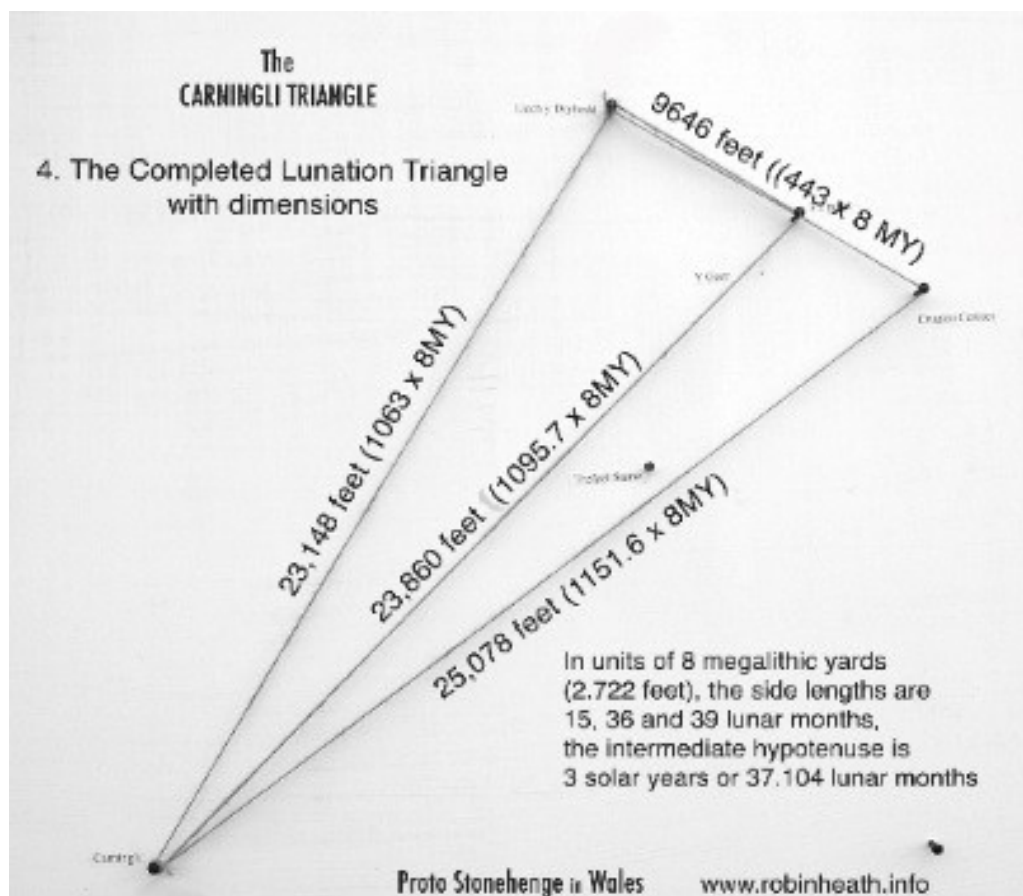


Diagram 1

Great precision is required in Heath's proposed triangles as the ratio lengths have to be multiplied by the unit length in order to bring about the desired astronomical values. For example, the 13 ratio side of the Carningli Triangle (25,078 feet) (Diagram 1) in units of Thom's 8MY, is made to equal 1151.66 days (39 lunar months). The triangle also has a scaling factor of 1: 88.59 in relation to the Stonehenge Station Stone Triangle.

Heath (2014:78) defines the best estimate of the unit used at Carningli as being 1929.1043 feet. But how reliable is this when he then states on page 79 that "the direct measurement of all the lengths of the triangle is highly improbable.....all three corners (are) somewhat adjustable in length..... (and there is) no likely possibility for a predetermined or preferred unit of length.....the unit length will be whatever it turns out to be."

As stated, Heath proposes in the Carningli Lunation Triangle (Diagram 2), that it has a unit length of 1929.1 feet. The 13 side also becomes the 5 side in an interconnected 3:4:5 ratio right-angled triangle, unit length 5026 feet. (Diagram 3). However, on multiplying these triangle lengths to Heath's unit values, you arrive at two different lengths between the same two points, Carningli and Crugiau Cemaes. The 5:12:13 triangle gives the distance at 25078.3 feet and the 3:4:5 triangle gives a distance of 25130 feet, a difference of 51.7 feet. Clearly flexibility in the unit lengths must be acknowledged if the concept of interlocking 5:12:13 and 3:4:5 triangles is to work.

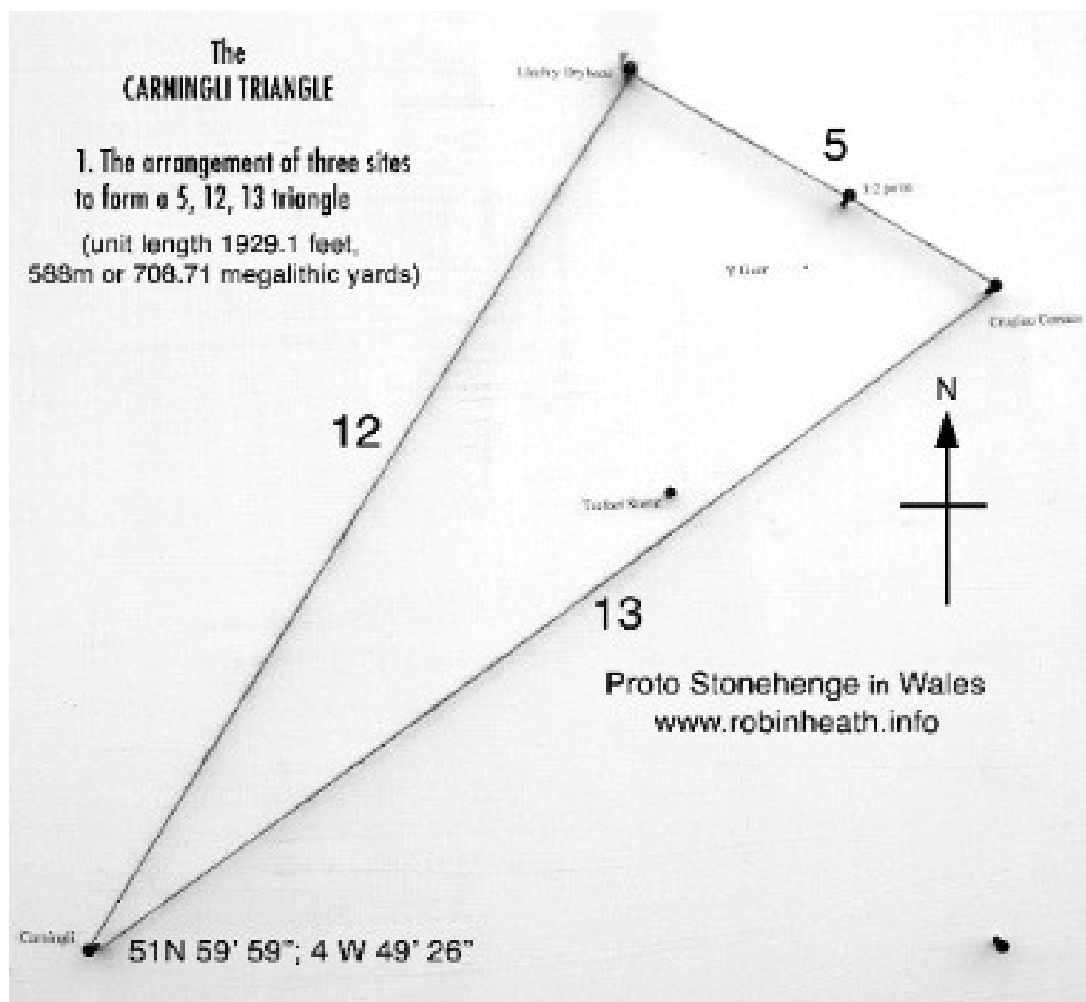


Diagram 2

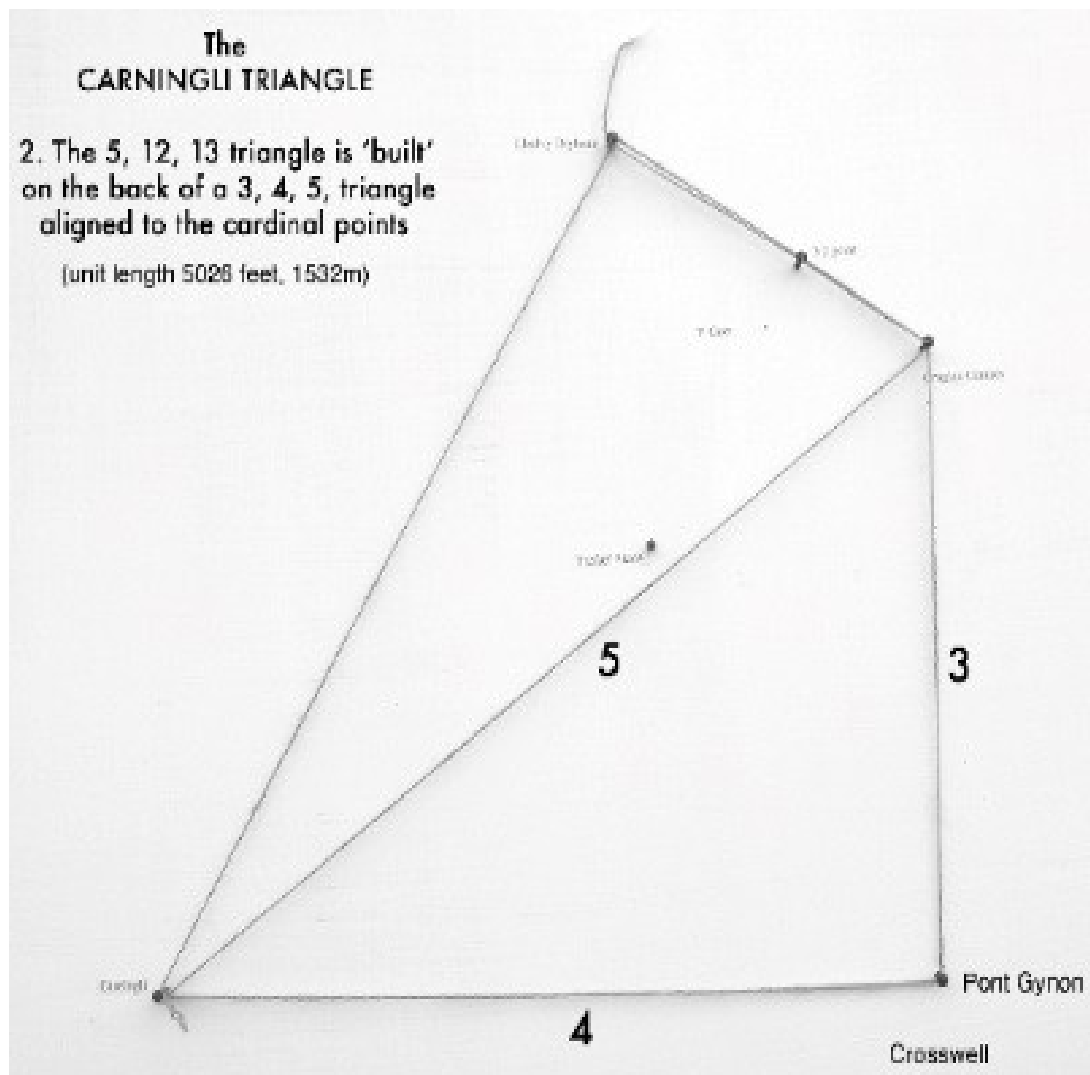


Diagram 3

Heath explains (2014:63) that the “*theory*” behind the lunation triangle originated during the late 1980’s/early 1990’s and “what was clearly needed were more examples.”

By saying this Heath clearly runs the risk of being accused of producing research evidence that fulfils his already pre-ordained and desired conclusions. If true, this method of research would be in direct contrast to how Norman Stockdale and I worked.

Norman and I spent many years observing the cup and ring markings on the moors above Ilkley. We looked at natural features, rocks that were not carved upon, the possible practical astronomical positioning of the carved rocks or their symbolic incorporation of astronomical data. On attempting to verify our Megalithic Foot (MF) and Megalithic Inch (Mi), in what I would best describe as an “organic” way, we allowed the carvings and distance lengths to reveal to us what was being attempted by the designers. We scrupulously kept an open mind on what we found, used completely impartial objectivity, even when our expectations were contradicted by the evidence.

See the Swastika Stone (Harris and Stockdale 2015:39/44)

To further assess the importance of getting the correct unit of length, with specific relation to the Stonehenge site central to this article, I will now return to Robin Heath's book "Proto Stonehenge in Wales" (2014). For continuity reasons and to make easier comparisons, I will follow the Heath (2014)

book chronologically, giving sources for measurements and the units in either metres, feet or inches, as well as Thom's Megalithic Yard MY.

At Stonehenge "The construction of the circular henge is now thought to have begun between 3150 and 2950 BC, and the digging of the ditch provided the chalky subsoil for making a 2 metre high circular bank."(Page 20)

Two entrances were constructed and "calculations undertaken on these two earliest features on the site show them to mark the two most northerly places of the sun and moon, the former each year at the summer solstice, and the latter every 18.6 years at the major standstill of the moon." (Page 20).

(Note: The Moon cycle takes 18.618 years = 6800 days).

The diameter of the circular bank is given as 320 feet (97.5m) (page xii). This produces a perimeter/circumference of 1005.44 feet (306.345 m).

Thom's Megalithic Yard is 2.72 feet long so the circumference length would be 369.647 MY.

My belief is that the circumference length was 1001.725 feet long so that in our proposed Megalithic Feet, (14.142 inches), this would make the circumference 850 (MF).

The reason why I think that makes for more sense and probability is because 850(MF) is exactly one eighth of the Moon Cycle of 6800 days. ($850 \times 8 = 6800$)

Note also that 6800 days is constructed by 17×400 and 850(MF) is 17×50 .

"The Aubrey Circle comprised fifty-six large pits, dug into the chalk. Averaging 0.7m deep and over a metre in diameter, each hole was neatly dug on the perimeter of an accurate circle on a constant radius struck from the centre of the henge." (Page 23)

The Aubrey Circle is described by Heath (2014: 36) as having a diameter of 283.6 feet (86.44m). This would give a circumference length of 891.07 feet (271.59m). In Thom's Megalithic Yards this would be a diameter of 104.26 MY and a circumference of 327.599 MY.

I would propose that the Aubrey Circle had a perimeter of 283.39 feet, only a couple of inches less than Heath gives. This would make the diameter 240.46(MF) and a circumference of 755.55(MF)

The reason being that 755.55(MF) is one ninth of the Moon Cycle in days. ($755.55 \times 9 = 6800$)

This is also where the value of 17 comes into play as mentioned previously.

The two perimeters of the bank and the Aubrey Circle are 6800 divided by 8 and 9. Total 17.

What I hope the above brief examples show are that our proposed Megalithic Foot (MF) was used to enable key astronomical values to be incorporated into the megalithic designs. These measurements in no way deter from the practical functions of the monuments nor interfere in any way with the geometry. In fact, they elaborate and help us reveal a mathematical attempt, through the sizes and lengths of the designs, to incorporate unifying or symbolic functions. In the above cases using the Megalithic Yard measurement proposed by Thom and supported by Heath, this would not be able to serve either of these functions. In the two sites looked at, the MY measurement would be meaningless in this regard.

Similarly in Heath (2014:23) mention is made of the present bluestone circle about 78 feet (23.8m) in diameter. Translated into Thom's Megalithic Yard MY this would make the diameter 28.67 MY and the circumference 90.1 MY. These appear to be random values.

But if you convert the 78 feet into our Megalithic Foot (MF) you get a circumference of 207.98 (MF).

207.98 multiplied by 1.666666 = 346.62(MF) Days in an Eclipse Year.

What I believe this example shows, is that the measurement of the unit length is of critical importance. Not only does it illuminate the symbolic functions underpinning the designs but, it also enables us to observe and understand more about how emphasis on the sun and moon and their interaction was altering. This could be either because more knowledge was obtained by the designers or because it reflected possible shifts in spiritual priorities and orientation.

In Heath (2014:39), under the heading "Finding the Unit Length," he invokes 8.01433 MY as a valid assumed measurement for the 5:12:13 ratio triangle in its relation to the Aubrey circle.

8.01433 MY when converted to our Megalithic Foot gives 18.497(MF)

With all the available information re the importance of the 18.6 year Moon cycle, acknowledged by Heath, wouldn't the most feasible and preferred measurement for use by the megalithic designers not be 18.6 (MF)? In this case not the 8.014 MY as suggested by Heath but the equivalent of 8.058 MY = 18.6 (MF), a difference of only 1.4 inches out of 260+ inches, (approx. 0.5%)?

"Thom's radial spacing for the Aubrey Circle gives a figure for the diameter of the Aubrey circle centres to be 283.6 feet. These remain the best measurements available." Heath (2014:38). But are they?

The 5:12: 13 ratio triangle Heath refers to is made up of:

'5' side	= 109.07ft	(40.07MY)
'12' side	= 261.78 ft	(96.17 MY)
'13' side	= 283.6 ft	(104.19 MY)
Total		240.43 MY

Surely the megalithic designers would have much preferred an 18.6 based unit as illustrated below:

' <u>5</u> ' side	= 109.6ft	93 (MF)	(<u>5</u> x 18.6)
' <u>12</u> ' side	= 263 ft	223.2 (MF)	(<u>12</u> x 18.6)
' <u>13</u> ' side	= 284.96 ft	241.8 (MF)	(<u>13</u> x 18.6)
Total		558 (MF)	(<u>30</u> x 18.6)

Heath (2014:20) himself acknowledges that the 18.6 years Moon Cycle was of concern at the circular ditch and bank, for he points out that an entrance was constructed to mark the 18.6 major standstill of the moon. Concerning the Aubrey circle, Heath (2014:104) says this "soli-lunar calendar track(s) the rotation of the lunar nodes within their 18.6 year cycle.....the eclipse seasons occur at the same times of the year, across a diameter of the Aubrey circle, after 3400 days."

Similarly the Station Stone Rectangle at Stonehenge has a total perimeter of 745.28 feet.

When converted to our Megalithic Feet two equal sides of the rectangle total 223.2 (MF) = 18.6 x 12

And the other two sides total 186 (MF) = 18.6 x 10

The full perimeter size of 745.28 feet equals 18.6×34 (MF). (This total brings in again the value of 17.)

Compare this to the perimeter length when converted to Thom/Heath's Megalithic Yard. This would total 274 MY or $34.25 \times$ the 8 MY units proposed by Heath. Of what significance is this?

The same questions are asked at both the Carningli Triangle and Le Manio Quadrilateral, Carnac, Brittany triangle, both of which are illustrated on a souvenir programme of Robin Heath's dated the 22nd June 2014, from a talk given at the Small World Theatre, Cardigan.

At Carnac the unit length is given as 88.586 inches.

88.586 inches is equal to 6.26 Megalithic Feet (MF) based on 14.142 inches.

Again, would not the megalithic designers have much preferred an 18.6 based unit?

87.68 inches is equal to 6.2 Megalithic Feet (MF) which multiplied by 3 would give 18.6.

This is only a difference of 0.9 inches in 88 or 1%.

At Carningli the unit length is given by Heath to be 1929 feet (709.19 of Thom's Megalithic Yards) 1929 feet is equal to 1636.8 Megalithic Feet (MF)

1636.8 Megalithic Feet (MF) is exactly 18.6×88 !

Therefore, the Carningli triangle discovered by Heath, meets the criteria of the 18.6 based unit that I am proposing! As such I would suggest that the Megalithic Foot (MF) helps confirm the existence of the Carningli Triangle proposed by Heath but by definition Heath's Carningli Triangle confirms the use of the Megalithic Foot (MF).

Looking further at Heath's Carningli triangle provides even more evidence for the use of the Megalithic Foot (MF).

The possible hypotenuse length of 23,860 feet, creates 2 interior triangles (Diagram 1). I would suggest that the hypotenuse length would be 23864.6 feet. (A difference of 4.625 feet or 0.02%) The reason being that these two interior triangles when added together total 89590 (MF)

89590 equals $17 \times 17 \times 310$

This again brings into play the number 17 which is prevalent throughout.

*310 (18.6 divided by 6 = 3.1).

Further data, which space does not allow in this article, points even more to the early stages of Stonehenge as using our proposed Megalithic Foot (MF) of 14.142 inches. Just inside the later Sarsen Circle there is evidence of the first stone circles erected, (later named the "Q" and "R" holes), with diameters of a) 26.24 metres and b) 22.27 metres. Converted into Megalithic Feet (MF) this gives:

- a) $73 \text{ (MF)} \times 5 = 365.25$ (Days in a Solar Year)
- b) $62 \text{ (MF)} \times 3 = 186$ (Moon cycle $\times 10$)

Robin's brother, Richard Heath, has explained that in the megalithic, numbers were stored as lengths and transformed within circular and triangular geometries that contained a religious dimension or *numerical symbolism*.

Robin Heath (2015:37/99) quotes Atkinson on the Stonehenge Station Stones as saying that they were far too large and imprecise as surveyors' reference points but that "they form permanent and symbolic memorials of an operation of field geometry" and that "the original laying out of the rectangle would have been done with markers, probably wooden posts, and the four stones would

have been sunk into the chalk later, as a more enduring "*symbolic*" representation of the intent of that original survey."

Surely, as Heath explains in the opening remarks of his book "Proto Stonehenge in Wales"(2014), whose findings relate to the first constructional phase of Stonehenge, Phases 1 and 2, he would acknowledge that one of the most important, religious and astronomical events of that time, as expressed in the architecture, was the 18.6 Moon cycle? At the Aubrey Hole 5:12:13 triangle would the designers not have seized the opportunity to create a practical and symbolic template which incorporated both the key astronomical value and unit length together?

Our proposed Megalithic Foot (MF) uniquely incorporates the unit value of 18.6 into the early Stonehenge bank and ditch, Station Stones and Aubrey Hole triangles, the Carningli lunation triangle and at Carnac. It is also confirmed in many more locations in Britain, Ireland and Brittany. This is not only in stone circles but also stone rows, distances between circles, triangular and circular geometries, cup and ring rock carvings and much more.

Therefore, I would contend that if Thom's Megalithic Yard MY did exist, a measurement Thom himself recognised as a *statistically averaged measurement*, and if this is the key unit that Heath claims underpins and confirms his complex calculations and long held theories, then the Megalithic Yard MY was either employed at Stonehenge or Carningli, alongside or at different time periods, with our proposed Megalithic Foot (MF).

Peter Harris

November 2015