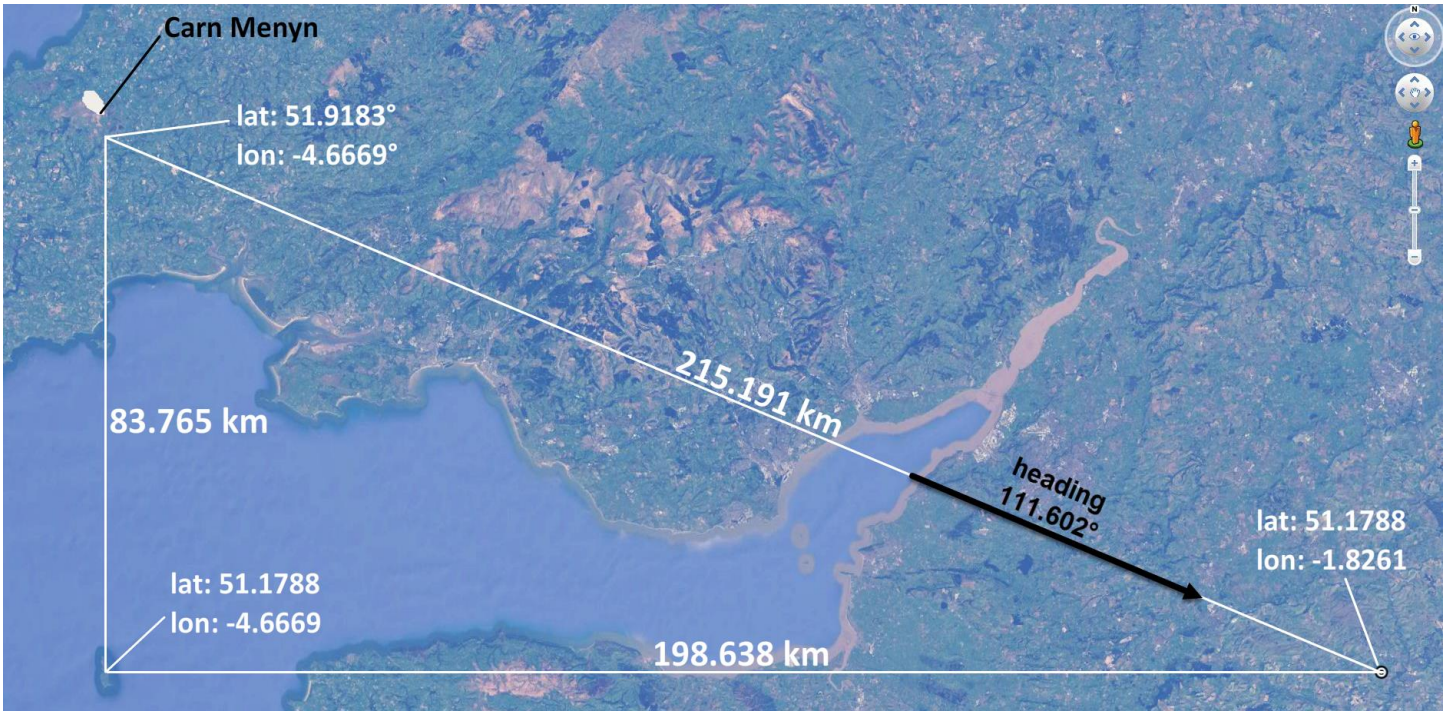


Stonehenge and the supposed 5 : 12 : 13 ‘Lunation Triangle’

THINGS ARE NOT WHAT THEY SEEM

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Abstract

Initially, I was strongly influenced by the work of Robin Heath and John Mitchell, which posited that Lundy Island was a key mediator in a 5-12-13 right-angled triangle connecting Stonehenge and the Preseli Hills, where the iconic bluestones of Stonehenge were sourced. Heath's explanations, which seemed to bring celestial geometry into earthly design, made the theory compelling. However, after conducting my own investigation, I found that the claims were far less accurate than portrayed.

The theory asserts that Lundy Island, with its ancient Welsh name "Ynys Elen" (supposedly meaning "elbow island"), serves as the right-angled mediator between Stonehenge and the Preseli Hills. This interpretation, while debatable, relies heavily on confirmation bias to support the 5-12-13 geometric alignment. Proponents of the theory argue that the 5-12-13 relationship is "exact," claiming that the layout of the Station Stone rectangle at Stonehenge encodes this large-scale geographic relationship, scaled down to a 1:2500 ratio. They even introduced a unit called the Astronomical Megalithic Yard (AMY) to support their geometric assertions, although the subtle differences between the AMY and other measures like the Megalithic Yard cast further doubt on their claims.

Upon testing these claims using modern tools such as Google Earth and recent archaeological data, I found several inconsistencies. For instance, while the latitude of Lundy Island aligns closely with that of Stonehenge, and its longitude roughly matches that of the eastern Preseli Hills, the northward distance from Lundy falls short, to the southeast of Carn Menyn, by 5.2 km. Furthermore, more recent evidence suggests that the true source of the bluestones is located 1.3 km northwest of Carn Menyn, at Carn Geodog, further weakening the accuracy of their hypothesis.

Even when generously accepting Carn Menyn as the source, the 5-12-13 triangle only achieves 93.70% accuracy—a far cry from the "exactitude" claimed by Heath and Mitchell. This lack of precision undermines both the larger-scale 5-12-13 triangle and the hypothesized scaled-down version represented by the Station Stone rectangle at Stonehenge. Additionally, the authors' assertion that the extended hypotenuse of this triangle passes directly through Giza is demonstrably false. The heading from Lundy to Stonehenge is 111.602°, while from Stonehenge to Giza it is 118.233°—a large enough discrepancy to render this claim not only ‘inaccurate’, but plainly invalid. Survey data from the Station Stone rectangle, including precise measurements by Atkinson, further discredit the 5-12-13 theory. Atkinson's theodolite measurements show a diagonal of 285.714 feet—significantly longer than Heath and Mitchell's proposed length, indicating that their geometric assertions may be a case of adjusting the data to fit the hypothesis.

In conclusion, the 5-12-13 triangle hypothesis surrounding Stonehenge, while intriguing, falls short under rigorous scrutiny. Extraordinary claims of geometric exactitude demand extraordinary evidence, and this theory lacks the precision to support such claims.

Enthusiasm for the 5-12-13 Triangle Theory

I used to be heavily persuaded by the writings of Robin Heath and John Mitchell, which suggested that Lundy Island was a crucial mediator in a 5-12-13 right-angled triangle connecting Stonehenge and the Preseli Hills, where the famous bluestones of Stonehenge were quarried.[1] Heath's detailed explanations, bringing heaven down to earth so to speak, made this geometric theory appear compelling, but once I started to investigate the evidence myself, I found the claim to be far less accurate than it was often portrayed.

Debating the Role of Lundy Island and the 5-12-13 Alignment

The theory claims that Lundy Island, with its ancient Welsh name "Ynys Elen," supposedly meaning "elbow island," serves as the right-angled mediator between Stonehenge and the Preseli Hills, thereby reinforcing the idea of a 5-12-13 geometric alignment. This etymological interpretation of 'elbow' is debatable and seems to rely on confirmation bias to justify the 5-12-13 theory, however, if accepted, the island's southeastern coastline does indeed have a prominent elbow-like shape, which easily could have inspired its supposed Welsh name, making it unnecessary to invoke a geometric interpretation linking it with Stonehenge (Figure 1).



Figure 1

Challenges to the Precision of the 5-12-13 Theory

Enthusiasts of Stonehenge have long noted that Lundy Island's near central latitude aligns with that of Stonehenge, and its longitude coincides with the eastern extreme of the Preseli Hills, the postulated source of the bluestones. This alignment led to the hypothesis that the ancient builders intentionally encoded this large-scale geographic relationship,

[1] Heath, R., Michell, J. (2006). The Lost Science of Measuring the Earth: Discovering the Sacred Geometry of the Ancients. United States: Adventures Unlimited Press.

in correlation with the 5-12-13 'Lunation Triangle', into the layout of the Station Stone rectangle atop the Aubrey Circle at Stonehenge,[2] despite the rectangle itself closely approximating two sides of an octagon, hinting at a silver ratio design. These proponents argue that the rectangle should be interpreted as being a hair wider to match a 5-12-13 ratio, supposedly scaled to 1/2500th of the larger geometric triangle involving Stonehenge, Lundy Island, and the Preseli Hills.

Testing the Hypothesis with Modern Tools

But is this theory truly verifiable, and if so, to what degree of precision? Supporters often claim that the 5-12-13 relationship is "exact," but a closer examination suggests otherwise. Heath and Mitchell even introduced a hypothetical unit called the Astronomical Megalithic Yard (AMY), equivalent to 2.71542 feet, supposedly derived from lunar and solar cycles in relation to the English foot, to bolster their argument. This measurement, a subtle 0.067-inch adjustment to Alexander Thom's hypothetical 'Megalithic Yard,' is a small yet significant discrepancy—reminiscent of Ptolemy's epicycles, which were continuously modified to uphold his flawed geocentric model of the universe.

In their book, Heath and Mitchell confidently claim:

> "If the Station Stone rectangle is scaled up by 2,500:1, it 'exactly' matches the Stonehenge-Preseli lunation triangle. In units of exactly 20,000 AMY, the dimensions are 5-12-13, the metrology matching the geometry."

Then Heath, later in his petite book called 'Stonehenge', goes on to confidently claim:

> "Astonishingly, the extension of the line connecting the bluestone site to Stonehenge eventually passes through the Giza Pyramid complex in Egypt, a weird but 'incontestable fact'.[3]

These statements of Heath imply the following:

> 1. The distance from Stonehenge to a point on Lundy Island at the same latitude as Stonehenge should be 651,702.72 feet or 198.638 km, representing the side of 12 in the 5-12-13 triangle.
>
> 2. The long side of the Station Stone rectangle, calculated as 1/2500th of 651,702.72 feet, must measure 260.681 feet (79.455 meters), with the diagonal representing the hypotenuse of 13 measuring 282.404 feet. This is derived from the calculation: 13/12 equals 1.08333, and 260.681 feet × 1.08333 equals 282.404 feet.
>
> 3. The hypotenuse of the hypothesized 5-12-13 triangle from the bluestone site in the Preseli hills to Stonehenge, can be extended thousands of miles to intersect the Pyramids at Giza. Meaning that the measured azimuth (heading) from the north vertice of the 5-12-13 triangle at the Blue Stone site to Stonehenge should

[2] We won't dive into the details here, but the Lunation Triangle is based on the right-angled 5-12-13 triangle. Within this triangle, the mediative length, measured at a 2/3 division of the short side between the hypotenuse and the long side, is said to correlate with the proportions of the solar and lunar years. As you can see, on its face value, it is highly speculative, but remains intriguing among metrologists.

[3] Heath, R. (2009). Stonehenge. United Kingdom: Wooden Books.

precisely match the heading from Stonehenge to Giza.[4] I decided to put these claims to the test using modern tools like Google Earth, along with the latest archaeological and survey data available.

Geometric Discrepancies and Broader Implications

When measuring 198.638 km westward from the exact center of Stonehenge, along the same latitude, I found that this distance indeed lands near the center of Lundy Island, at latitude 51.1788°, approximately 332 meters from its eastern shore and 2510 meters from its northern shore, at longitude -4.6669°. At first glance, this seems to lend support to the theory. However, the real test lies in measuring the supposed right-angle distance north from this point on Lundy Island. We need to measure 82.765 km north (representing the 5 side of the 5-12-13 triangle) to determine if it reaches the Preseli Hills as claimed. The result of this measurement lands us on a point in the gentle rolling earth just NW of Llanglydwen, at latitude 51.9183° and longitude -4.6669°. This point is 5.2 kilometers from the southernmost archaeological site linked to Stonehenge in the Preseli Hills, Carn Menyn (Figure 2).

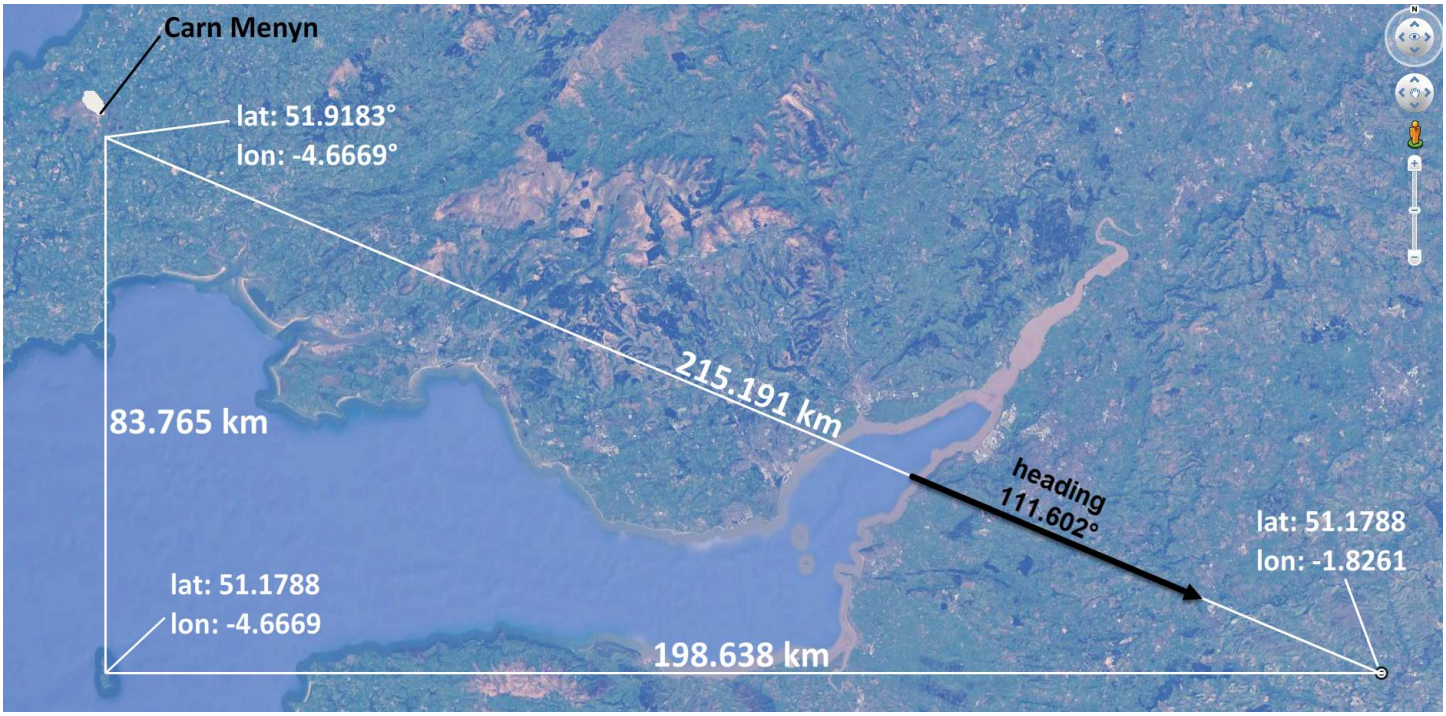


Figure 2

Beginning in the mid-19th century, Carn Menyn was thought to be the primary source for Stonehenge's bluestones, but more recent evidence points to quarries farther north and west in the Preseli region, such as Carn Goedog, whose geological profile more closely matches the stones found at Stonehenge.[5] This updated data further undermines the 5-

[4] The heading from Stonehenge to the Great Pyramid is precisely 118.233°, which can be verified using Google Earth Pro. On the reliability of using Google Earth Pro as a tool for an archeoastronomy, see: Romain, W. F. (2023). Notes on the Accuracy of Google Earth Pro Heading Information for Archeoastronomy and Landscape Archaeology Studies. *Journal of Skyscape Archaeology*, *8*(2), 246-278. https://doi.org/10.1558/jsa.25599

[5] Pearson MP, Pollard J, Richards C, et al. Megalith quarries for Stonehenge's bluestones. *Antiquity*. 2019;93(367):45-62. doi:10.15184/aqy.2018.111

12-13 theory because Carn Goedog, the more likely source quarry, is around 1.3 kilometers further than Carn Menyn from the plotted endpoint of the 5 side of the 5-12-13 triangle. This discrepancy reduces the accuracy of the triangle from 93.70%, relative to Carn Menyn, to about 92.15% relative to Carn Goedog.

Another consideration is that, although Heath and Mitchell present their measurements with confidence, they fail to account for the complexities of measuring on a spherical Earth, where true right angles and straight lines don't behave the same way as they do in flat-plane geometry. While using spherical geometry would yield more accurate results, the omission of this factor doesn't drastically alter their calculations. However, any claim of exactitude would require the rigor of spherical geometry, or at the very least, the use of GPS mapping data for verification.

Reassessing the Station Stone Rectangle and Overall Accuracy

Even if we generously accept Carn Menyn, and not Carn Geodog, as the source of the bluestones, the 93.70% accuracy for the 5 side of the 5-12-13 triangle still falls short of the precision implied by Heath and Mitchell's claims. This lack of exactitude not only weakens the case for the larger-scale 5-12-13 triangle but also raises doubts about the supposed accuracy of the 1:2500 scale representation in the Station Stone rectangle at Stonehenge. If the broader geometric alignment is only 93.7% accurate, then the assertion that the scaled-down version is "exact" is equally questionable. Additionally, their claim that the extended hypotenuse from the north vertex of the calculated 5-12-13 triangle passes directly from Stonehenge to Giza is not only inaccurate—it seems to be a fanciful fabrication designed to support an already poorly substantiated hypothesis. The heading from the northern vertex to Stonehenge is 111.602°, while the heading from Stonehenge to Giza is 118.233°, a discrepancy so significant that it's not even worth calculating the accuracy.

All this data that challenges the 5-12-13 triangle hypothesis doesn't even consider the direct evidence from precise surveys of the Station Stone rectangle, including the measurements by Atkinson, who directed the site for 14 years.[6] Atkinson used a theodolite to measure the distance and angles of the Station Stones and calculated the diagonal of the rectangle to be 285.714 feet—3.31 feet longer than the length proposed by Heath and Mitchell, which appears now to be a potential case of the tail wagging the dog.

Now what?

For those of us who take the study of ancient metrology seriously, failing to examine these claims scientifically with the exceptional tools available in our home offices, does a great injustice to the intellectual pastime of ancient metrology. Extraordinary claims of exactitude require extraordinary evidence of exactitude and embracing this 5-12-13 Lunation Triangle theory without thoroughly testing its assertions, or citing its accuracy, falls short of the scientific scrutiny it demands. To properly honor the pursuit of knowledge in this romantic field of ancient metrology, we must hold even

[6] Atkinson, R. J. C. (1979). Stonehenge. United Kingdom: Penguin Books.

the most intriguing theories to the highest standards of evidence. Did this study completely debunk the 5-12-13 hypothesis concerning Stonehenge? Well, until something better comes along (hint: silver ratio), it certainly didn't do it any favors.