

When I received my 3<sup>rd</sup> degree lecture, I learned of a symbol called the 47<sup>th</sup> problem of Euclid. According to the lecture, it was invented by Pythagoras and teaches us as masons to be general lovers of the arts and sciences...

However, these 2 lines are all our lectures have to say about a symbol which features itself prominently in many facets of Masonic life – we see it on the past master’s jewel and aprons, and exactly why a symbol which has been described as the foundation of all geometry and the cornerstone of mathematics is given only two lines of text, especially when we learn in the second degree that our most revered liberal art is in fact Geometry left me dumb-founded.

So began my exploration.

My search began by looking into the history of this symbol. Pythagoras did not in fact invent this theory, he did however prove mathematically the whys behind it. And as a result gave the world what is known to people more commonly as “The Pythagoras Theorem”. With this theorem, we can prove a circle, a right angle, a square, and much more. To operative master masons of ancient times, the mechanics attached this symbol could truly be considered a genuine secret of the masons at the time, as it allowed them to lay out their designs without error and create the foundation of temples and other such edifices. Knowledge such as this would only be shared with very few individuals, and only after years of training and dedication to the craft.

The origins of the 47<sup>th</sup> problem lay further back in time with the Egyptians; it is from them which Pythagoras first learned about the age old concept which he later proved into his theorem.

The “Egyptian String Trick” which Pythagoras studied was the way the Egyptians created perfect right angles with only a string and 3 sticks when re-measuring the fields along the Nile River after the annual floods would have wiped out the old dividers. When Pythagoras was given the instruction on how to do this trick, he was amazed to find that every time they marked a corner it would always become a perfect right angle.

The special string they used has knots tied on it, creating 12 equal divisions along the length of the string. They would then stab the first stick into the sand at the point of one of the knots, then stretch 3 divisions in any given direction and stab the second stick into the ground. Finally they place the third stick so it fell between the knot between the 4 and 5 part divisions. And this created a perfect 3:4:5 right angle triangle every time.

Several hundreds of years after Pythagoras, Euclid of Alexandria wrote a 13 book epic entitled “The Elements”. These 13 books covered all the theorems of math and geometry as they were know at the time of its publication, and is arguably one of the most influential textbooks ever created, as it had been used for over two thousand years as the basic text on geometry and math. Our 47<sup>th</sup> problem, is located at the end of the first book, which covers all basic elements of geometry.

So now, knowing the past of this symbol and its importance to operative masons, how does it apply itself to us as speculative masons?

In my searches for this answer, I found no easy textbook response which appeased me, thus causing me to ponder for the elusive answer to my question. However in much the same way as Pythagoras's famed cry of Eureka! I was in fact driving in my car and a answer came to me. A simple one, but as the basic theory for this problem is quite basic by itself, a simple answer with a complex undertone appeared to fit the bill.

Just as this theorem allows the operative masons the ability to prove squares and right angles of their constructions, the 47<sup>th</sup> Problem as a symbol, reminds us to prove our own square, straightening our own edges so we may remain on the level with our fellow brothers at all times.

To further add to the importance of this symbol as previously mentioned, we do place it on the apron and jewel of the past master of a lodge. One might speculate this is because they have traveled down the level road from west to east, correcting their square along the way until they have been bestowed the honour of Worshipful Master by their lodge. They then, must use this ancient string trick to ensure the lodge always meets on the level and parts on the square.

And like the surveyor who uses this problem to ascertain the height of a mountain, or the captain who used it to predict the tides of the ocean, it is the duty of the Worshipful Master to use this problem to keep the boat of the lodge afloat and to ensure we know how far we need to travel to reach the top of our mountain.

Thank you