



## Notes from a Preceptor's Handbook

### A Preceptor:

(OED) 1440 A.D. from Latin *praeceptor*

one who instructs, a teacher, a tutor, a mentor

## Fred & Charlie ask.....



## What has Pythagoras got to do with freemasonry?

An explanation of a Past Master's jewel

# Square conduct

[An explanation of a Past Master's jewel]

The Installation of the new Worship Master had gone very well indeed. Charlie had been asked to deliver the 'First' Working tools – which he did rather well, confidently and accurately. Before the long walk home Fred suggested a swift celebratory half at the club bar. After the first sip Charlie casually wondered why with all the memorable masonic symbols to select from they chose that rather curious triangle hanging from the Square as a Past Master's Jewel? *'What on earth does it represent, Fred?'*

*'You're not the first to ask,'* Fred responded, *'and I suspect you won't be the last. Our Book of Constitutions describes it somewhat enigmatically as "a diagram of the 47<sup>th</sup> proposition in the First Book of Euclid". For many Freemasons today one suspects that's possibly not awfully helpful.'*

Charlie shrugged. *'Very true. I've heard of 'propositioning' but surely that has nothing to do with Freemasonry, does it? And what exactly is a Euclid anyway?'*

Fred ordered two full pints - it was clearly going to be that sort of night!. *'Charlie, your knowledge - or more accurately lack of a knowledge - of history never ceases to sadden me. A proposition is the same as a theorem or a mathematical proof or explanation. OK?'*

*'Euclid was a teacher working in Alexandria about 300 BC during the reign of the first Ptolemy. He lived shortly after that other great teacher Plato and before Archimedes – do they ring any bells? No? Ah well. Euclid produced 13 books of mathematical propositions or "theorems" which became the bedrock of mathematics for the next two thousand plus years and were even used in my schooldays. Charlie muttered quietly 'I knew you were old, Fred, but heavens not that old'.*

Fred chose to ignore Charlie. *'Of all the theorems the best known is number 47 of his Book One concerning a right angled triangle.'*

*'Why',* said by a now slowly interested Charlie.

*'Well, an earlier Greek mathematician called Pythagoras had found that in a right angled triangle the square of the side opposite the right angle (the hypotenuse) always equalled the sum of the squares of the other two sides – but couldn't explain why. Euclid produced that elegant geometric proof which Past Masters now proudly display in miniature.'*

*'Were Euclid and Pythagoras also masons?,'* asked Charlie.

Fred laughed. *'No, neither man had ever shaped a stone in his life'*

*'Then why was that proof important to masons?'*

*'Because it at last made possible the erection of our great stone cathedrals and castles'.*

*'How?,'* persisted Charlie.

*'When you're erecting a simple hut or cottage a slight misalignment matters not a jot - as you can still see in the houses of any old fishing village. When you are building a 400ft Spire as at Salisbury Cathedral measurements in every direction need to be precise'*

*'Yes, I get that,' said Charlie, 'but what has that got to do with the theorem?'*

*Fred realised he had a demanding pupil. 'The 47<sup>th</sup> Theorem says that in a right angled triangle the square of the hypotenuse equals the sum of the squares of the other two sides. Charlie nodded cautiously. 'Let's reverse that. If we create a triangle whose shorter sides when squared equal the square of the longer dimension then, hey presto, the angle contained by the shorter sides must be precisely 90 degrees.*

*'So, whenever our mason needed to make something square, if he took three measuring sticks of, say, three, four and five units and arranged them to touch in a triangle he knew that between the shorter sides he had created a perfect right angle or square of exactly 90 degrees. Charlie's eyes flickered as he did the sums: 'Three squared is nine, four squared is sixteen, five squared is twenty five. 'Yes it works', he said triumphantly.*

*Fred was by now in full flow: 'By changing the units from an inch to a foot, yard or fathom our mason could apply this method to a table top, a building's foundations or a street plan. The principle remained exactly the same if he created the square horizontally, vertically or diagonally. The idea was as versatile as it was beautiful.'*

*'Well, I can see its use for the operative mason', said Charlie 'but why is it still relevant in Speculative Freemasonry...and what has it got to do with a Jewel for a PM?'*

*'Tell me, what does the First Degree say about squares, Charlie?'*

*'That all squares, levels and perpendiculars are true and proper signs to know a Mason by'*

*'And in the "Second" Working Tools, Charlie?'*

*'By square conduct, level steps and upright intentions we finally hope to ascend to those immortal mansions'*

*Fred smiled: 'There you have it. The square or right angle is today a basic sign denoting Freemasonry, practically and morally. Euclid first demonstrated to the early masons the importance of a square. The Jewel of his proof should therefore be a constant reminder to all Past Masters, by their own square conduct, to demonstrate the high moral standards expected of the Brethren placed in their care.'*

*Fred patted Charlie kindly on the shoulder.*

*'In the years to come, Charlie, if you are awarded that Jewel, wear it with pride – and, now, always wear it with understanding.'*

*Glasses drained they strolled amicably home, surprisingly refreshed not only in body but also in spirit.*

**Michael Lee**