LUCERNA

Spring 2018 Issue 7

RESEARCH LODGE OF COLORADO QUARTERLY

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FROM THE EAST

A Mason called me a couple weeks ago just to say hello and as usually happens, we got onto the topics of the evils and ills of society. He leans a bit more conservative than I do and generally takes the harder line. When I compare conservative to liberal, I am not necessarily speaking of a political position, rather a posture relative to pursuing change. Conservatism is not necessarily opposed to change but it is less likely to seek change than liberalism. Of course none of that matters to anyone who allows the political landscape to define terms.

Certain events came into the conversation and we got onto the topic of capital punishment. I don't necessarily disagree with capital punishment but I had to ask, what will people think of us 100 years from now? Will capital punishment be viewed as barbaric? Less than 100 years ago, it was not universally barbaric for 14 year old boys to work 10 hours a day in manual labor. How will we be viewed in 200 years? Less than 200 years ago, it was not universally barbaric to own slaves in the US. We don't use the rack, iron maidens or thumb screws on confinees in the US but what about the treatment of foreign detainees in off shore detention centers?

Certainly there is a need to protect society and my goal was not to argue a specific position or policy. But when I hung up the phone, I had to consider; what blurs my vision when I respond, react and draw conclusions on any number of topics? Do I lean to the principles of friendship, morality and brotherly love? How deeply rooted are the noble tenants of brotherly love, relief and truth? How straight is the line laid along my version of the truth? Is grammar contorted? Does rhetoric supplant logic? I'm not sure but I came away with a different perspective on the world from that simple question; what will people think of us 100 years from now.

W.Bro. Peter Prestion

NEXT MEETING

Next meeting of RLC is scheduled for Sept. 29, 2018, at Garfield Lodge, 2029 Hwy 66, Longmont, 80504. Officers to meet at 2 pm, meeting at 3 pm. Please see www.rlcolo.org for more information and to RSVP.

Dinner will be held after lodge somewhere in town.

Presentation by: Bro. Brandon Wood on the Masonic Influences in Mozart's *Magic Flute*.

THE NUMBER THREE: THE GEOMETRY OF THE APRON

"That the Degrees in man are the same as those of the universe can be seen by any one, on a little reflection. Both have Degrees; this can not be denied. Each has three, and no more; this is demonstrable. ... Hence, as far as human cognitions can go, the Degrees in man and in the universe are the same. These are demonstrably the same as those of the Lodge. The Lodge includes all, and no more. Hence the Lodge is complete."

-Henry P. H. Bromwell. *Restorations of Masonic Geometry and Symbolry*, III.12.

Three, five, and seven are the three numbers Masons love the most, and their application and use in Masonic ritual and symbolism is highly prevalent. But the number three is far more prevalent in Freemasonry than any other number. In fact, we are informed in the Stair Lecture that "the number three may be found wherever we turn our steps in Freemasonry."

Three is the number of degrees in the Blue Lodge, the number of primary officers of the Lodge, the number of burning tapers about the altar, the stages of human life, the number of ruffians, the number of times we are asked a bunch of questions about our qualifications for membership into the Craft, the number of Ancient Grand Masters, the number of grips and steps and signs, and the list goes on and on and on. But for this brief paper we will focus on one unexpected place where we may find the number three: the area of the aprons.

There are, of course, three ways the apron is worn: the Entered Apprentice wears his apron with the flap turned up (Figure 1), while the Fellow Craft wears his with the flap and right corner turned up (Figure 2), and the Master Mason wears his with the flap and right corner turned down "in the form of a square" (Figure 3). But there is something peculiar about the geometry of the three ways the apron is worn according the degree. "Geometry, or Masonry, originally synonymous terms," will show us how the number three is found in the area (e.g. square feet or units) of these three manners of wearing the apron.

Though historically we know that the Masonic apron used to be much longer, and had rounded ends (see George Washington's apron), today we use squared corners, and the overall shape is usually square or approximately square. The Officer's Handbook gives the following prescription for the size and shape of the apron: "The apron, with the flap turned down, shall be in the form of a perfect square, each side of which shall be between 14 inches and 16 inches long, preferably 15 inches long [3 + 5 + 7]. The flap shall be in the form of a right angle triangle, the hypotenuse being equal in length to the length of the side of the apron."¹ If we define each side of the apron as being equal to 1, then the area of the Master Mason's apron is 1 square unit. The flap then, as a right triangle and its hypotenuse being equal to 1 (i.e. one side of the apron), has an area of one-quarter or 0.25 square units.

Thus the Entered Apprentice apron, with the flap turned up, has an area of 1 + 0.25 = 1.25 square units.

The Fellow Craft apron, with the flap and right corner turned up, has an area of 0.5 + 0.25 = 0.75 square units.

And the Master Mason apron, with the flap turned down, has an area of 1.

Together these three aprons have a total area of 1.25 + 0.75 + 1 = 3.

As Masons we are encouraged to study the science of Geometry, for which the letter G over the Worshipful Master's station stands for. The manner in which the apron is halved and quartered, especially how the Entered Apprentice apron's area is increased by a quarter of a square unit is similar to a method described by Plato in his dialogue Meno for doubling the area of a square. Plato rarely discusses mathematics or geometry in his dialogues, and when he does he never goes into such rigorous detail as he does in Meno. In this dialogue Socrates is demonstrating his theory of knowledge as recollection, called amamnesis. He demonstrates this by asking questions, as opposed to giving instruction, a method better known as the Socratic Method. By this method a person may remember principles and understandings they already know; knowledge they had obtained in past incarnations of their soul, and only needed to be given a memory jog by asking certain questions, albeit rather leading questions that would get an objection in a court of law. The larger principle Socrates is demonstrating is that through his method of questioning he is demonstrating the immortality of the soul via metempsychosis (i.e. reincarnation), and that learning is not depositing knowledge, but recovering it. Socrates demonstrates this by working through a mathematical puzzle of doubling the area of a square with one of Meno's slaves, who has no education.

In first working through the problem, they discover that doubling the area of a square cannot be achieved by simply doubling each side, for this will result in an area that is quadruple the original area. In other words, a 2x2 square, with an area of 4 square units, cannot double its area by making a 4x4 square, which has an area of 16 square units, and is thus four times as large.

Socrates then helps jog the slave's memory by laying out one square (Figure 4) and dividing it in half by a diagonal line (Figure 5). Then he lays out three other squares of the same size, with similar diagonal divisions, in the form of a square grid (Figure 6). The slave discovers that these four squares each have two halves, and thus the square ithin the larger square set at a 45° angle has four halves, and is thus double the area of the original square (Figure 7).²

^{1.} The Most Worshipful Grand Lodge of Ancient Free and Accepted Masons of Colorado. *The Handbook for Officers of Constituent Lodges*. December 2013. Pg. 45.

^{2.} Plato. Meno, 82b-85b.

There is a specific reason for Socrates to guide the slave to the answer of this little geometry puzzle in such a strange manner, which involves inducing a state of confusion as the soul has difficulty in recollecting what the answer is, even though it knows what is true. Nonetheless, there is a simpler means of doubling the area of a square using a similar method.

If we take a square of 1 square units (Fig. 8) and divide diagonally into quarters (Figure 9), then mirror those right triangles of 0.25 square units each along their hypotenuses (Figures 10 & 11)—as if we were turning the flap of the apron up—, then we will successfully create a square with twice the area of the original (Figure 12).

In simple arithmatic, if we have a square of of 1 square unit that is divided into quarters by its diagonals, then we have a square of 0.25 + 0.25 + 0.25 + 0.25 = 1 square unit. Then if we flip each quarter like we turn up the apron's flap, then we add 0.25 + 0.25 + 0.25 + 0.25 + 1 = 2 square, thus doubling the area of the original square.

Henry Bromwell discusses this problem, though with no mention to Plato, in his tome Restorations of Masonic Geometry and Symbolry. Ultimately he correlates the geometric significance of the Meno problem (Diagrams No. 22 & 23) with the 47th Problem of Euclid (Diagram No. 21),³ that beautiful mathematical proposition that demonstrates through tedious mathematical proofs, axioms, and theorems the validity of the Pythagorean Theorem. Bromwell extensively and meticulously posits, demonstrates, and speculates the holistic use of Euclid's 47th Problem in Masonic ritual, symbolism, paraphernalia, and lodge room design. For instance, he illustrates how the 47th Problem may be used to proportionally layout the lodge room dimensions (Diagram No. 7), as well as layout and size the checkered pavement of the lodge room floor (Diagram No. 49). In Plate XXIX Bromwell illustrates his interpreations of the aprons as representation of the lodge floor, particularlly the Master Mason's apron, and by suggestion of his dotted construction lines of the Entered Apprentice apron he relates this apron with Euclid's 47th Problem.

The extent to which Bromwell connects the 47^{th} Problem of Euclid to symbolism and geometric design in Freemasonry is exhausting, given the size and volume of his monumental tome on the subject, and thus a more in depth study of this is far beyond the scope of this paper. But the fact that he draws (literally) a correspondence between Meno's problem to the 47^{th} Problem to the lodge floor to the apron lends validity to the relationship between the shape and folding of the Entered Apprentice, Fellow Craft, and Master Mason aprons and the geometry problem in Plato's Meno.

In other words, the design and folding of the apron is an exercise in Geometry (with a capital G), and it exemplifies that sacred number: three.

^{3.} Bromwell, Henry P. H. *Restorations of Masonic Geometry and Symbolry* (Anniversary Edition), VIII. Boulder, CO: Lovers of the Craft. 2010. Pg. 176-177.





MASONIC EVENTS CALENDAR

EVENT	DATE	LOCATION	FOR MORE INFORMATION
Grand York Rite Sessions CO	Sep. 8, 9	Colorado Springs	www.coyorkrite.org
Grand York Rite Sessions WY	Sep. 13-15	Casper, WY	www.yorkritewy.org
Research Lodge of Colorado	Sep. 29	Garfield Lodge	www.rlcolo.org
Colorado Masonic Symposium	Oct. 13 & 14	Denver	www.mwglco.org
NW Deartment Conference	Oct. 19 & 20	Boise, ID	www.nwyr.org
SRICF High Council	Nov. 9 & 10	Louisville, KY	www.sricf.org

Would you like to learn LATIN?

Dr. Castellani, Head of the Language Department at Denver University is offering an introductory course in Latin for members of RLC. Please contact the Secretary for more information.

