

## **Geometry** by Donald L. McAndrews. PM, PHP, MPS

In the Senior Deacon's Fellowcraft Lecture, we are recommended to the study of the seven liberal arts and sciences: Grammar, Rhetoric, Logic, Arithmetic, Geometry, Music and Astronomy. When received in the East, the new Fellowcraft is particularly recommended the study of geometry with an extensive lecture on this science. The amount of time devoted to the Geometry Lecture would indicate there is something of importance in this subject. So, let us examine Geometry a little more deeply.

The word itself is interesting: Geometry. "Geo" means "earth" and "metry" means "measuring." Taken together the word literally means "measuring the earth." Now, many of you may have bad memories of geometry in Jr. High or High School. But when you really stop to consider it, geometry underlies all of the other six arts and sciences.

Classical geometry begins with axioms which are definitions and accepted basic truths. From here we progress to theorems or speculations, which end up as proofs, or new truths. This whole system employs a great deal of logic to arrive at these truths, rhetoric to express these truths, and arithmetic to actually prove them. So where does grammar fit in? Grammar deals with the logic and structure of our language, just as geometry deals with logic and structure.

This finally brings us to Music and Astronomy. The latter is a no-brainer. When scientist talk about thrust, orbits and trajectories, the geometry of it is pretty obvious. And with the many satellites circling our planet, measuring its topography, light, heat and radiation, these astronomical endeavors perfectly fit the definition of "measuring the earth."

But, where does music fit in? This is actually a close connection with our ancient friend and brother Pythagoras. He is considered to be the father of music because of his seminal work in the geometry of music and his developing the very first system of musical notation. Pythagoras took harp strings of identical length and stretched them to equal tensions. When pinching off one of the strings in its exact center, he made the exact same tone only an octave higher. In fact, he discovered the concept of the octave. It was not an arbitrary division of eight steps in the scale, but the discovery by trial and error that the pleasing tonal progressions were perfectly even numbered relationships in the lengths of the strings. Consequently music and astronomy share the very closest relationship with geometry, geometry being the means by which the other two are expressed.

But, there is another aspect of geometry with very close relationships to both Pythagoras and Freemasonry. This is the ancient subject of sacred geometry. Where classical geometry deals with the niceties and uniformities of our universe, sacred geometry deals with the uneven, unknowable, incomprehensible irrational numbers. For convenience we call these numbers pi and phi. They describe the most pleasing and the most commonly occurring relationships in our world, but their exact mathematical values have never been perfectly calculated, not even by super computers. But, this is a topic for another discussion.

The Great Architect of the Universe has given us an understanding of geometry as the undergirding of everything in His creation. He has also given us sacred geometry to remind us of our limited ability to understand and comprehend. The study of geometry is well recommended, for through it we better understand and appreciate God's creation. And this understanding and appreciation brings us closer to the Almighty.