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MASONIC GEOMETRY

by: Unknown

Fellowcrafts receive several admonitions and exhortations regarding the Sciences of Geometry and astronomy, and many an initiate has wondered just how far his duty should carry him in undertaking anew the study of branches of mathematics which are associated in his with much troubled effort in school days.

While some mathematical-minded men may find the same joy in the study of lines, angles, surfaces, spheres and measurements which the musician obtains from his notes, the painter from his perspective and colors; and the poet from his meter and rhymes; comparatively few brethren rejoice in the study of the mathematically abstruse. This must have been well known to Preston, when he wrote those portions of our Fellowcraft Degree which we owe to his genius, as to any modern. So it seems fair to conclude that it was less the literal study of geometry, with a design to become an expert, than a figurative appreciation of its implications which the great Master of Masonry had in mind. Indeed, a careful and critical examination of the ritual which speaks of geometry, and its child, astronomy, will demonstrate this.

Fellowcraft rituals, in this country, with very few exceptions trace back to Thomas Smith Webb. Because of the variations which ritual committees, Grand Lecturers and others have introduced, so that few Jurisdictions are exactly at one as to what is the proper form. our examination here will be based on Webb. His several para-graphs, here quoted in succession although separated in his "Monitor", read as follows:

Geometry treats of the powers and properties of magnitudes in general, where length, breadth and thickness are considered; from a point to a line, from a line to a superficies and from a superficies to a solid.

By this science, the architect is enabled to construct his plans and execute his design; the general to arrange his soldiers; the engineer to mark out ground for encampments; the geographer to give us the dimensions of the world, and all things therein contained, to delineate the extent of seas, and specify the divisions of empires, kingdoms and provinces; by it also, the astronomer is enabled to make his observations, and to fix the duration of times and seasons, years and cycles. In fine, geometry is the foundation of architecture, and the root of mathematics.

Astronomy is that divine art, by which we are taught to read the

wisdom, strength and beauty of the Almighty Creator, in those sacred pages of the celestial hemisphere. Assisted by astronomy, we can observe the motions, measure the distances, comprehend the magnitudes, and calculate the periods and eclipses of the heavenly bodies. By it we learn the use of the globes, the system of the world and the preliminary law of nature. While we are employed in the study of this science, we must perceive unparalleled instances of wisdom and goodness, and through the whole creation, trace the Glorious Author by his works.

Geometry, the first and the noblest of sciences, is the basis on which the superstructure of Masonry is erected. By geometry, we may curiously trace Nature, through her various windings, to her most concealed recesses. By it we discover the power, the wisdom and the goodness of the Grand Artificer of the Universe, and view with delight the proportions which connect this vast machine. By it, we discover how the planets move in their different orbits, and demonstrate their various revolutions. By it we account for the return of the seasons and the variety of scenes which each season displays to the discerning eye. Numberless worlds are around us, all framed by the same Divine Artist, which roll through the vast expanse, and are all conducted by the same unerring laws of nature.

The study of the liberal arts, that valuable branch of education, which tends so effectually to polish and adorn the mind, is earnestly recommended to your consideration; especially as the basis of our art. Geometry, or Masonry, originally synonymous terms, being of a divine and moral nature, is enriched with the most useful knowledge; while it proves the wonderful properties of nature, it demonstrates the more important truths of morality.

The interested Mason will find here far less of admonition to make himself a geometer than an attempt to make him appreciate what the science of geometry means to Masonry, as a demonstration of the glorious works of creation, the majesty and awe-inspiring magnitude of the universe, and thus, the perfection of our divine creator.

To understand how geometry demonstrates the more important truths of morality, it is essential to comprehend just what this science really is.

Geometry is that deductive science which deals with the properties of space, and masses which occupy space. Science is exact and classified knowledge. In the last analysis all science is measurement. It may be measurement of time or space; of atom or electron; of event or process, but measurement it is. Hence geometry, which is based on measurements of area, masses, angles, spaces and the relations between them, is fundamental to all science. It may come as a shock to some minds to know that there is not, strictly speaking, any really exact science. One of the greatest

truths man has learned, in all his centuries of study, is that there is no absolute to be known; all truths, including the mathematical, are relative. There is no absolute rock on which any geometry, either the familiar Euclidian geometry of our school days or the non-Euclidian geometries of the mathematician, can be based.
For all geometries are founded upon some assumptions.

The axioms of geometry are so-called self-evident truths which not only need no proof. but which cannot be proved. These self-evident truths are those which we instinctively know by experience; truths which no counter experience questions. And right here we meet with one of the great pregnant meanings of Geometry from the Masonic standpoint. The whole of the system of Freemasonry, the essence of all its teachings, the content of all its philosophy, the soul of all its morality, rest upon an axiom, an assumption which can never be proved, as either mathematical or legal world understands the word proof . . . the existence of Deity.

Deity can neither be proved nor disproved, using the word in the scientific sense. Proof is a process of he mind, a matter of logic, a satisfaction of the intellect, and in the end rests upon the assumption that which is universally observed, and universally constant, has always been and always will be so. It is unthinkable to our minds that two plus two could ever be anything but four, though we perform the addition on the farthest star. Yet we are learning that what seems true when bounded by earthly conditions, is not necessarily true when considered from a vaster and more distant viewpoint.

Belief in Deity is not the result of a process of the intellect, but of the heart or soul. Man is now, has always been, and presumably will always be, universal in his belief in, and longing for, a Great Architect of the Universe. Masons accept the belief without question. It is part of our lives; we could have no masonry without it. Lacking it we could not live as we understand life. But from the scientific standpoint it is as impossible to prove as are any of Eucli d’s
axiom, without which there could be no geometry.

And those very statements are as near a proof as we can come.

Surely, if it is a fair assumption that the geometry on which rests all science, and which in itself rests upon unprovable axioms, as a true science, so is the belief, on which rests all hope and happiness in life, but which is not scientifically provable, a true belief.

We are taught that geometry demonstrates the more important truths of morality. Morality can hardly here mean any code of human conduct, such as

the observance of the ten commandments, the live and let live idea on which modern civilization is founded, observance of man-made law, etc. Such, indeed, is morality in the strict sense, but here morality must mean something much greater and quite different. The more important truths of morality which geometry teaches must be those fundamental beliefs on which all life is founded; the existence of Deity, the immortality of the soul, the reality of the love of God for his children.

The intelligent reader will have noted that here Preston says demonstrate and not prove, as he does a phrase before. Geometry may prove the wonderful properties of nature but demonstrate is as much as we can claim for the more important truths of morality.

Imagine yourself in the middle of the Sahara desert.
You are alone, many miles from any human being, You have no knowledge whatever that any one has passed this way before you. Suddenly you come upon a watch, lying in the sand. It is running, and it agrees with your watch. On tests you find that the watch will run but thirty-six hours without winding.

You are absolutely certain, and no one could convince you to the contrary, that, (1) some human being was here within thirty-six hours, or, (2) that the watch was tied to some animal, and fell off that animal at the spot where you found it, or, (3) that is was tied to some bird, and fell from the bird, or (4) that is was dropped from an airplane or balloon.

The one inescapable fact is that the watch was running; it had been wound within thirty-six hours.

Geometry demonstrates the more important truths of morality very much as the watch demonstrated to you that some one had been where you found it, before you. A running watch proves a maker and winder . . . the human mind is so constituted that it cannot conceive of a plan without some intelligence to make the plan. No power or argument could convince you that the watch made itself; or rolled or flew to the spot where you found it. It is a watch - therefore it was made by hands. It runs - therefore it was wound. It is where no watch can be, ordinarily speaking - therefore it was brought to that spot by something living.

The geometer measures the numberless worlds around us, which roll through the vast expanse and are all conducted by the same unerring laws of nature. From his measurements he concludes that the orbit of a certain planet - say Venus - is such-and thus, and its time of travel from here to there is so-and-so many days. By careful computation, aided by numberless observations, he reduces these facts to exact data. From these he predicts that on a certain day, at a certain hour, minute and second, Venus will appear against the sun -

will transit, in other words.

If, then, Venus does cross the face of the sun, beginning at the time predicted, and taking just the interval prophesied to do so, the geometer knows, as well as it possible for the human mind to know, that his calculations are correct.

In other words, Venus revolved in her orbit and the sun swung in his, according to plan.

The astronomer repeats the feat for a thousand heavenly happenings. Eclipses of the sun, moon, the tides, occultation of countless stars, the beginning and ending of times and seasons he predicts in advance with such accuracy and certainty, that no brother scientist questions the verity of his predictions. All are agreed that the numberless worlds about us roll through the vast expanse according to a plan.

The previous statement is here repeated; there can be no plan without a planner!

In this way, then, does geometry demonstrate the most important possible truth of morality - the definite existence of Some One who planned; planned with such exactitude that even poor witless ignorant humans are able to prophesy the future results of the working of that plan.

Some "stupid atheists" counter such an argument by saying "You do not need a plan - the planets revolve according to natural law." Very well, who made the natural law? If the skeptic says Eclipses are but the nature of thing, Who created the nature of things? Question can be added o question, and each push the answer further back in space and time and consciousness; but, inevitably, at the end, we come to Who? That is geometry's demonstration of the most important truth.

Our minds are wholly sense bound. We can obtain no information regarding the universe except through our five senses, and the use our intelligences make of the information thus secured. A man without sight, hearing, smell, taste and feeling might still think, but he could not communicate, nor be communicated to. A man so born could never learn anything, since he would have no channels through which even the simplest information could run. It is inescapably true that if in our universe are facts which cannot be learned by our senses, mortals can never learn them. In other words, there is a limit to human knowledge. Therefore must there be a limit beyond which no human science, such as geometry, can demonstrate great truths. But with these we are not concerned, since those truths, physical or moral, of which we know and of which we teach that a geometrical demonstration is possible, are sufficiently beyond common

understanding without asking for others still less comprehensible.

If the more important truths of morality are, as stated:
1. Existence of Deity.
2. Immortality.
3. Love of God for his children:

Then geometry can be said to demonstrate the first, thus:

1. There is no plan without a planner - geometry proves that the universe runs according to a plan, which follows laws to exact that predictions successfully can be made from them.

2. It is impossible for Deity to be less perfect than his creatures.

3. All his creatures exhibit love, tenderness and devotion for their children. No human parent but would give indefinite life to his child if he could.

4. Therefore, Deity, infinitely more perfect than the most perfec
t
of His children, has, in His infinite love, provided infinite life for His children.

The attempt to prove that which is known of the soul in terms known only of the mind is more or less fruitless. But it is only by some such process of reasoning that we can follow out the admonitions of the Fellowcraft degree. We are to study geometry, not so much in books and lines and angles and measurements and axiom and theorems and propositions and problems, as in a demonstration of the wonderful properties of nature. From these we deduce that the universe in general, and the world in particular, exist, move, evolve, live according to definite laws or plans. Knowing that plans cannot create themselves, any more than the watch in the desert could create and wind itself, we are logically compelled to believe in the planner. In the nature of things, as we know them. He who plans must be more perfect than we who were planned. Our virtues, then, must be but pale reflections of His. If we would not deny immortality to those dependent upon us whom we love, then the love of the Great Architect, and His provisions of immortality, are as much proved to us as any processes of the mind can prove the certainty of the soul.

So considered, the study of geometry, so magnificently set forth in the Fellowcraft degree, becomes not an admonition to do examples or learn from a book but a clarion call to understand that the heavens declare the glory of God, and the firmament sheweth His handiwork.