

THE BOOK OF CONSTITUTIONS, GUARDED BY THE TILER'S SWORD

Before the door of all lodges stands a Tiler "with a drawn sword in his hand." Customarily it is a straight blade; such a shining shaft of steel as was carried by knights of olden time. According to Mackey it should have a snake-like shape in allusion to the "Flaming sword which was placed at the east of the Garden of Eden which turned every way to keep the way of the tree of life." "The Book of Constitutions, guarded by the Tiler's sword," is a comparatively modern symbol; its introduction has been traced to Webb, about 1800.

It reminds us to be "ever watchful and guarded in our words and actions, particularly when before the enemies of Masonry, ever bearing in remembrance those truly Masonic virtues, silence and circumspection." But the Book of Constitutions is not a secret work. It was first ordered printed by the Mother Grand Lodge, and a few original copies as well as uncounted reprints of the Old Charges and the General Regulations of 1723 are in existence to be seen by Mason and profane alike. Obviously neither silence nor circumspection regarding this particular Masonic volume is necessary. Some read into Webb's symbol the thought that it expresses the guardianship of constitutional government by the Masonic Fraternity but this seems rather far-fetched. It is easier to think that the Tiler's sword admonishes us to brook no changes in our ancient landmarks, to be guarded lest our words and actions bring the foundation book of Masonic law into disrepute before the enemies of Masonry, applying to the Book of Constitutions as well as to the secrets of Freemasonry "those truly Masonic virtues, silence and circumspection." The second edition of Anderson's Constitutions sets forth that in 1731 the Grand Master, the Duke of Norfolk, presented to the Grand Lodge of England

the old trusty sword of Gustavus Adolphus, king of Sweden, that was worn next by his successor in war, the brave Bernard, Duke of Saxe-Weimar, with both their names on the blade, which the Grand Master had ordered Brother George Moody (the king's sword cutler) to adorn richly with the arms of Norfolk in silver on the scabbard, in order to be the Grand Master's sword of state in the future.

Early prints of lodge meetings on the Continent show the sword in use in the ceremonies; in this country the sword was never worn in the lodge room even during that era when a sword was as much a necessary article of a gentleman's dress as shoes or gloves. It was deemed then as now incompatible with meeting upon the level. Either as a weapon which made its possessor stronger than the man who was unarmed, or as a badge of rank, the sword has no place in the lodge, except that it is usually presented to the Tiler in the lodge at opening. It is almost universal for the Tiler to request military men in uniform to leave their swords without the lodge before entering. This custom, comparatively little known in this country because few military men in times of peace go to lodge in full uniform, was often broken during the war when soldiers clanked up and down lodge rooms with their arms at their sides. But it is as Masonically inconsistent to wear a sword in lodge as to appear therein without an apron.

The Tiler's sword is wholly symbolic; whether it was always so is a matter lost in the mists which shroud ancient history. The Tiler of the operative lodge may well have been armed with a sword for actual defense against the cowan, who wanted the word and the secret of the square without the necessity of serving a long period as an Apprentice and laboring to produce a satisfactory Master's Piece. The modern Tiler keeps off the cowan and the eavesdropper by the simple process of refusing to admit those he does not know; if they still desire to enter the tiled door, they must either be vouched for or request a committee. The Tiler's sword is but the emblem of his authority, as the gavel is the symbol of that possessed by the Master.

No symbol in Freemasonry but is less than the idea symbolized. The Volume of the Sacred Law, the letter "G," the Square, the Compasses, all symbolize ideas infinitely greater than paper and ink, a letter formed of electric lights or carved from wood, a working tool of metal. The Tiler's sword has a much greater significance than its use as a defense against invasion of privacy. The eavesdropper from without is no longer feared. The real eavesdropper is the innocent profane who is told more than he should by the too enthusiastic Mason. In the monitorial charge to the Entered Apprentice we hear, "neither are you to suffer your zeal for the Institution to lead you into argument with those who, through ignorance may ridicule it." The admonition of the Book of Constitutions guarded by the Tiler's sword applies here.

Constructively if not actively every profane who learns more than he should of esoteric Masonic work is an enemy.

Let us, then, all wear a Tiler's sword in our hearts; let us set the seal of silence and circumspection upon our tongues; let us guard the West Gate from the cowan as loyally as the Tiler guards his door.

Only by such use of the sword do we carry out its symbolism. To Masons the sword is an emblem of power and authority, never of blood or wounds or battle or death. Only when thought of in this way is it consistent with the rest of the symbols of our gentle Craft, winning obedience to the mandates of the Tiler by brotherly love, an infinitely stronger power than strength of arm, point of weapon or bright and glittering steel.

THE ALL-SEEING EYE

This is one of the oldest and most widespread symbols denoting God. We find it in Egypt, in India, and in the Old Testament. The Open Eye of Egypt represented Osiris. In India Siva is represented by an eye. In the Old Testament we read of the "eyes of Jehovah."

Omniscience and omnipresence are rather forbidding words; the All-Seeing Eye expresses in familiar syllables a thought easily comprehended by ignorant and wise alike. The conception of a sleepless Eye which sees not only material but spiritual things; which watches not only externals but the "inmost recesses of the human heart" has that pictorial and imaginative appeal which visualizes to the most matter-of-fact the power and the universality of the Great Architect.

We are taught of it as the "All-Seeing Eye whom the sun, moon, and stars obey and under whose watchful care even comets perform their stupendous revolutions." In this astronomical reference is a potent argument for extreme care in the transmission of ritual unchanged from mouth to ear and the necessity of curbing well-intentioned brethren who wish to "improve" the ritual.

The word "revolution," printed in the earliest Webb monitors, fixes the astronomical references as comparatively modern conceptions. Tycho Brahe, progenitor of the modern maker and user of fine instruments among astronomers, whose discoveries have left an indelible impress on astronomy, did not consider comets as orbital bodies. Galileo thought them "emanations of the atmosphere." Not until the Seventeenth Century was well under way did a few daring spirits suggest that these celestial portents of evil, these terrible heavenly demons which had inspired terror in the hearts of men for uncounted generations, were actually parts of the solar system, and that many if not most of them were periodic, returning again and again; in other words, that they revolved about the sun.

Obviously, this passage of our ritual cannot have come down to us by a word-of-mouth transmission from an epoch earlier than that in which men first believed that a comet was not an augury of evil but a part of the solar system, a body which engaged not in irresponsible evolutions but law-controlled revolutions. Here the change of a single letter would destroy an approximate date-fixing reference.

THE 47TH PROBLEM OF EUCLID

Except the All-Seeing Eye, this emblem contains more real food for thought than any other in the lecture of the Sublime Degree. Yet the 47th problem of Euclid generally gets less attention and certainly less understanding than all the rest. The paragraph relating to Pythagoras in our lecture is condensed from one in the Thomas Smith Webb Monitor which appeared at the close of the Eighteenth Century.

Unabbreviated, it reads:

The 47th problem of Euclid was an invention of our ancient friend and brother, the great Pythagoras, who, in his travels through Asia, Africa, and Europe, was initiated into several orders of priesthood, and raised to the Sublime Degree of Master Mason. This wise philosopher enriched his mind abundantly in a general knowledge of things, and more especially in Geometry, or Masonry. On this subject he drew out many problems and theorems, and, among the most distinguished, he erected this, when, in the joy of his heart, he exclaimed Eureka, in the Greek language signifying, "I have found it," and upon the discovery of which he is said to have sacrificed a hecatomb. It teaches Masons to be general lovers of the arts and sciences.

In a sense that Pythagoras was a learned man, a leader, a teacher, a founder of a school, a wise man who saw God in Nature and in number, he was a "friend and brother." That he was "initiated into several orders of priesthood" is history. That he

was "raised to the Sublime Degree of Master Mason" is an impossibility, as the third degree as we know it is not more than three hundred years old at the very outside. Pythagoras travelled but probably his wanderings were confined to the countries bordering the Mediterranean. He did go to Egypt, but it is doubtful that he got much farther into Asia than Asia Minor.

He did indeed "enrich his mind abundantly" in many matters and particularly in mathematics. That he was the first to "erect" the 47th problem is possible but not proved; at least he worked with it so much that it is sometimes called "the Pythagorean problem." If he did discover it, he might have exclaimed "Eureka," but that he sacrificed a hecatomb - a hundred head of cattle - is entirely out of character, since the Pythagoreans were vegetarians and revered all animal life.

In Pythagoras' day (586-506 B.C.) the 47th problem was not so called. It remained for Euclid of Alexandria two hundred years later to write his books of geometry, of which the 47th and 48th problems form the end of the first. Either Pythagoras did discover the Pythagorean problem, or if it was known prior to his time, it was used by him, so that Euclid, recording in writing the science of geometry as it was then known, merely availed himself of the mathematical knowledge of his era. At the close of his first book Euclid states the 47th problem - and its correlative 48th - as follows:

(47th) In every right angle triangle the square on the hypotenuse is equal to the sum of the squares on the other two sides.

(48th) If the square described on one of the sides of a triangle is equal to the square described on the other sides, then the angle contained by these two sides is a right angle.

This sounds more complicated than it is. Of all people Masons should know what a square is: a right angle, the fourth of a circle, an angle of ninety degrees. For the benefit of those who have forgotten their school days, the "hypotenuse" is the line which makes a right angle into a triangle by connecting the ends of the two lines which form it.

For illustrative purposes let us consider that the familiar Masonic square has one arm six inches long and one arm eight inches long. A square erected on the six-inch arm will contain square inches to the number of six times six, or thirty-six square inches. The square erected on the eight-inch arm will contain square inches to the number of eight times eight, or sixty-four. The sum of sixty-four and thirty-six square inches is one hundred square inches.

According to the 47th problem the square which can be erected upon the hypotenuse, or line joining the six- and eight-inch arms of the square, should contain exactly one hundred square inches. The only square which can contain one hundred square inches has ten-inch sides, since ten, and no other number, is the square root of one hundred.

This is provable, mathematically, but it is also demonstrable with an actual square. The curious need only lay off a line six inches long, at right angles to a line eight inches long, connect the free ends by a line (the hypotenuse) and measure the length of that line to be convinced - it is, indeed, ten inches long.

This is the famous 47th problem. It is the root of all geometry. It is behind the discovery of every mathematical unknown from two known factors. It is the very cornerstone of mathematics.

The engineer who tunnels from both sides through a mountain uses it to get his two shafts to meet in the center. The surveyor who wants to know how high a mountain may be ascertains the answer through the 47th problem. The astronomer who calculates the distance of the sun, the moon, the planets, and who fixes "the duration of times and seasons, years, and cycles," depends upon the 47th problem for his results. The navigator travelling the trackless seas uses the 47th problem in determining his latitude, his longitude, and his true time.

Eclipses are predicted, tides are specified as to height and time of occurrence, land is surveyed, roads run, shafts dug, bridges built, with the 47th problem to show the way.

It is difficult to show why it is true; easy to demonstrate that it is true. Why is two added to two always four and never five or three? Only because we call the product of two added to two by the name of "four." If we expressed the conception of "fourness" by some other name, then two plus two would be that other name. But the truth would be the same, regardless of the name.

So, it is with the 47th problem of Euclid. The sum of the squares of the sides of any right-angle triangle - no matter what their dimensions - always exactly equals the square of the line connecting their ends - the hypotenuse. One line may be a few inches long, the other several miles long; the problem invariably works out both by actual measurement upon the earth and by mathematical demonstration.

It is impossible for us to conceive a place in the universe where two added to two produces five and not four. We cannot conceive of a world, no matter how far distant among the stars, where the 47th problem is not a true fact, meaning absolute - not dependent upon time or place or world or even universe.

Truth, we are taught, is a divine attribute and as such is coincident with Divinity, omnipresent.

It is in this sense that the 47th problem "teaches Masons to be general lovers of the arts and sciences." With the 47th problem man reaches out into the universe, measures distances of the greatest magnitude, describes the whole framework and handiwork of nature. With it he calculates the orbits and the positions of those numberless worlds about us, and reduces the chaos of ignorance to the law and order of intelligent appreciation of the cosmos. With it he instructs his fellow- Masons that the great book of Nature is to be read through a square.

Considered thus, the "invention of our ancient friend and brother, the great Pythagoras," becomes one of the most impressive, as it is one of the most important, of the emblems of all Freemasonry, since it is a symbol of the power, the wisdom and the goodness of the Great Architect of the Universe.

He who understands the truth behind the 47th problem sees a new meaning to the reception of a Fellowcraft and understands better why a square teaches morality and is dedicated to the Master.