

# SUN, MOON AND STARS

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We have more right to be astonished that the astronomical references are so few, rather than to be surprised that there are so many!

We are taught that geometry and Masonry were originally synonymous terms and geometry, fifth of the seven liberal arts and sciences, is given more prominence in our Fellowcraft degree than the seventh, astronomy. Yet the beginnings of astronomy far antedate the earliest geometrician. Indeed, geometry came into existence to answer the ceaseless questionings of man as to the “why” of celestial phenomena.

In these modern days it is difficult to visualize the vital importance of the heavens generally, to early man. We can hardly conceive of their terror of the eclipse and the comet, or sense their veneration for the Sun and his bride, the Moon. We are too well educated. We know too much about “the proportions which connect this vast machine.” The astronomer has pushed back the frontiers of his science beyond the inquiries of most of us; the questions which occur as a result of unaided visual observations have all been answered. We have substituted facts for fancies regarding the sun, the moon, the solar system, the comet and the eclipse.

Albert Pike, the great Masonic student “who found Masonry in a hovel and left her in a palace” says:

We cannot, even in the remotest degree, feel, though we may partially and imperfectly imagine, how those great, primitive, simple-hearted children of Nature, felt in regard to the Starry Hosts, there upon the slopes of the Himalayas, on the Chaldean plains, in the Persian and Median deserts, and upon the banks of the great, strange River, the Nile. To them the universe was alive - instinct with forces and powers, mysterious and beyond their comprehension. To them it was no machine, no great system of clockwork; but a great live creature, in sympathy with or inimical to man. To them, all was mystery and a miracle, and the stars flashing overhead spoke to their hearts almost in an audible language. Jupiter, with its kingly splendors, was the Emperor of the starry legions. Venus looked lovingly on the earth and blessed it; Mars with his crimson fires threatened war and misfortune; and Saturn, cold and grave, chilled and repelled them. The ever-changing moon, faithful companion of the sun, was a constant miracle and wonder; the Sun himself the visible emblem of the creative and generative power. To them the earth was a great plain, over which the sun, the moon and the planets revolved, its servants, framed to give it light. Of the stars, some were beneficent existences that brought with them Spring-time and fruits and flowers - some, faithful, sentinels, advising them of coming inundations, of the season of storm and of deadly winds some heralds of evil, which, steadily foretelling, they seemed to cause. To them the eclipse, were portents of evil, and their causes hidden in mystery, and supernatural. The regular returns of the stars, the comings of Arcturus, Orion, Sirius, the Pleides and Aldebaran; and the journeyings of the Sun, were voluntary and not mechanical to them. What wonder that astronomy became to them the most important of sciences; that those who learned it became rulers; and that vast edifices, the pyramids, the tower or Temple of Bel, and other like erections elsewhere in the East, were builded for astronomical purposes? - and what wonder that, in their great childlike simplicity, they worshipped

the Light, the Sun, the Planets, and the stars; and personified them, and eagerly believed in the histories invented for them; in that age when the capacity for belief was infinite; as indeed, if we but reflect, it still is and ever will be?"

Anglo-Saxons usually consider history as their history; science as their science; religion as their religion. This somewhat naive viewpoint is hardly substantiated by a less egoistic survey of knowledge. Columbus's sailors believed they would "fall off the edge" of a flat world, yet Pythagoras knew the earth to be a ball. The ecliptic was known before Solomon's Temple was built. The Chinese predicted eclipses long, long before the Europeans of the middle age quit regarding them as portents of doom! Astronomical lore of Freemasonry is very old. The foundations of our degrees are far more ancient than we can prove by documentary evidence. It is surely not stretching credulity to believe that the study which antedates "Geometry, the first and noblest of sciences," must have been impressed on our Order, its ceremonies and its symbols, long before Preston and Webb worked their ingenious revolutions in our rituals and gave us the system of degrees we use - in one form or another - today.

The astronomical references in our degrees begin with the points of the compass; East, West, and South; and the place of darkness, the North. We are taught the reason why the North is a place of darkness by the position of Solomon's Temple with reference to the ecliptic, a most important astronomical conception. The Sun is the Past Master's own symbol; our Masters rule their lodges - or are supposed to! - with the same regularity with the Sun rules the day and the Moon governs the night. Our explanation of our Lesser Lights is obviously an adaption of a concept which dates back to the earliest of religions; specifically to the Egyptian Isis, Orsiris and Horus; represented by the Sun, Moon and Venus.

Circumambulation about the Altar is in imitation of the course of the Sun. We traverse our lodges from East to West by way of the South, as did the Sun Worshipers who thus imitated the daily passage of their deity through the heavens.

Measures of time are wholly a matter of astronomy.

Days and nights were before man, and consequently before astronomy, but hours and minutes, high twelve and low twelve, are inventions of the mind, depending upon the astronomical observation of the Sun at Meridian to determine noon, and consequently all other periods of time. Indeed, we are taught this in the Middle Chamber work, in which we give to Geometry the premier place as a means by which the astronomer may "fix the duration of time and seasons, years and cycles."

Atop the Pillars representing those in the porch of King Solomon's Temple appear the terrestrial and celestial globes. In the Fellowcraft degree we are told in beautiful and poetic language that "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 law of nature."

Our Ancient brethren, observing that the sun rose and set, easily determining East and West in a general way. As the rises and sets through a variation of 47 degrees north and south during a six month's period the determination was not exact.

The earliest Chaldean star gazers, progenitors of the astronomers of later ages, saw that the apparently revolving heavens pivoted on a point nearly coincident with a certain star. We know that the true north diverges about from the North Star one and one-half degrees, but their observations were sufficiently accurate to determine a North - and consequently East, West and South.

The reference to the ecliptic in the Sublime Degree has puzzled many a brother who has not studied the elements of astronomy.

The earliest astronomers defined the ecliptic as the hypothetical "circular" plane of the earth's path about the sun, with the sun in the "center."

As a matter of fact, the sun is not in the center and the earth's path about sun is not circular. The earth travels once about the sun in three hundred and sixty-five days, and a fraction, on an "elliptic" path; the sun is at one of the foci of that ellipse.

The axis of the earth, about which it turns once in twenty-four hours, thus making a night and a day, is inclined to this hypothetical plane by 23 and one-half degrees. At one point in its yearly path, the north pole of the earth is inclined towards the sun by this amount. Half way further around in its path the north pole is inclined away from the sun by this angle. The longest day in the northern hemisphere - June 21st - occurs when the north pole is most inclined toward the sun.

Ant building situated between latitudes 23 and one-half north and 23 and one-half south of the equator, will receive the rays of the sun at meridian (high twelve, or noon) from the north at some time during the year. King Solomon's Temple at Jerusalem, being in latitude 31 degrees 47 seconds north, lay beyond this limit. At no time in the year, therefore, did the sun or moon at meridian "dart its rays into the northerly portion thereof."

As astronomy in Europe is comparatively modern, some have argued that this reason for considering the North, Masonically, as a place of darkness, must also be comparatively modern. This is wholly mistaken - Pythagoras (to go further back) recognized the obliquity of the world's axis to the ecliptic, as well as that the earth was a sphere suspended in space. While Pythagoras (510 B.C.) is much younger than Solomon's Temple, he is almost two thousand years older than the beginnings of astronomy in Europe.

The "world celestial and terrestrial" on the brazen pillars were added by modern ritual makers. Solomon knew them not, but contemporaries of Solomon believed the heavens to be a sphere revolving around the earth. To them the earth stood still; a hollow sphere with its inner surface dotted with stars. The slowly turning "celestial sphere" is as old as mankind's observations of the "starry decked heavens."

It is to be noted that terrestrial and celestial spheres are both used as emblems of universality. They are not mere duplications for emphasis; they teach their own individual part of "universality." What is "universal" on the earth - as for instance, the necessity of mankind to breathe, drink water, and eat in order to live - is not necessarily "universal" in all the universe. We have no knowledge that any other planet in our solar system is inhabited - what evidence there is, is rather to the contrary. We have no knowledge that any other sun has any inhabited planets in its system. Neither have we any knowledge that they have not. If life does exist in some other, to us unknown world, it may be

entirely different from life on this planet. Hence a symbol of universality which applied only to earth would be a self-contradiction.

Real universality means what it says. It appertains to the whole universe. While a Mason's charity, considered as giving relief to the poor and distressed, must obviously be confined to this particular planet, his charity of thought may, so we are taught, extend "through the boundless realms of eternity."

Hence "the world terrestrial" and "the world celestial" on our representations of the pillars, in denoting universality mean that the principles of our Order are not founded upon mere earthly conditions and transient truths, but rest upon Divine and limitless foundations, coexistent with the whole cosmos and its creator.

We are taught of 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, oddly enough, a potent argument, both for the extreme care in the transmission of ritual unchanged from mouth to ear, and the urgent necessity of curbing well-intentioned brethren who wish to "improve" the ritual.

The word "revolution" in this paragraph (it is so printed in the earliest Webb monitors) fixes it as a comparatively modern conception. Tycho Brahe, progenitor of the modern maker and user of fine instruments among astronomers, whose discoveries have left an indelible impress on astronomy, made no attempt to consider comets as orbital bodies. Galileo thought them "emanations of the atmosphere." Not until the seventeenth century was well underway did a few daring spirits suggest that these celestial portents of evil, these terribly 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, actually returning again and again; in other words, that they revolved about the sun.

Obviously, then, 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 commenced to believe that a comet was not an augury of evil but a part of the solar system.

The so-called "lunar lodges" have far more a practical than an astronomical basis. In the early days of Masonry, both in England and in this country, many if not most lodges, met on dates fixed in advance, but according to the time when the moon was full; not because the moon "Governed" the night, but because it illuminated the traveler's path! In days when roads were but muddy paths between town and hamlet, when any journey was hazardous and on black nights dangerous in the extreme, the natural illumination of the moon, making the road easy to find and the depredations of highwaymen the more difficult, was a matter of some moment!

One final curious derivation of a Masonic symbol from the heavens and we are through. The symbol universally associated with the Stewards of a Masonic lodge is the cornucopia.

According to the mythology of the Greeks, which go back to the very dawn of civilization, the God Zeus was nourished in infancy from the milk of a goat, Amalthea. In gratitude, the God placed

Amalthea forever in the heavens as a constellation, but first gave one of Amalthea's horns to his nurses with the assurance that it would forever pour for them whatever they desired!

The "horn of plenty," or the cornucopia, is thus a symbol of abundance. The goat from which it came may be found by the curious among the constellations under the name of Capricorn. The "Tropic of Capricorn" of our school days is the southern limit of the swing of the sun on the path which marks the ecliptic, on which it inclines first its north and then its south pole towards our luminary. Hence there is a connection, not the less direct for being tenuous, between our Stewards, their symbol, the lights in the lodge, the "place of darkness" and Solomon's Temple.

Of such curious links and interesting bypaths is the study of astronomy and its connection with Freemasonry, the more beautiful when we see eye to eye with the Psalmist in the Great Light; "The Heavens Declare the Glory of God and the Firmament Sheweth His Handiwork."