



Masonic Astronomy and the Royal Arch of the Heavens



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Barron Barnett Lodge of Research
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United Grand Lodge of Queensland
on the 16th of May 2012 as the
Ken Wells Commemorative Address

Brethren, the roll of the workmen has been called, and one Master Mason has not answered to his name. He has laid down the working tools of the Craft and with them he has left that mortal part for which he no longer has use.

His labours here below have taught him to divest his heart and conscience of the vices and superfluities of life, thereby fitting his mind as a living stone for that spiritual building -- that house not made with hands, eternal in the heavens.

Our Brother Ken passed to the Celestial Grand Lodge on the 8th of June 2012

This address is dedicated to his memory.

Cover Pictures:
The Pleiades or Seven Sisters
William Blake's "Ancient of Days"
Royal Arch Tracing Board

The Seven Liberal Arts

Every Freemason around the globe is familiar with the Seven Liberal Arts and Sciences which, in Queensland, are first briefly encountered near the end of the Charge After Initiation on the night a man becomes a Mason.

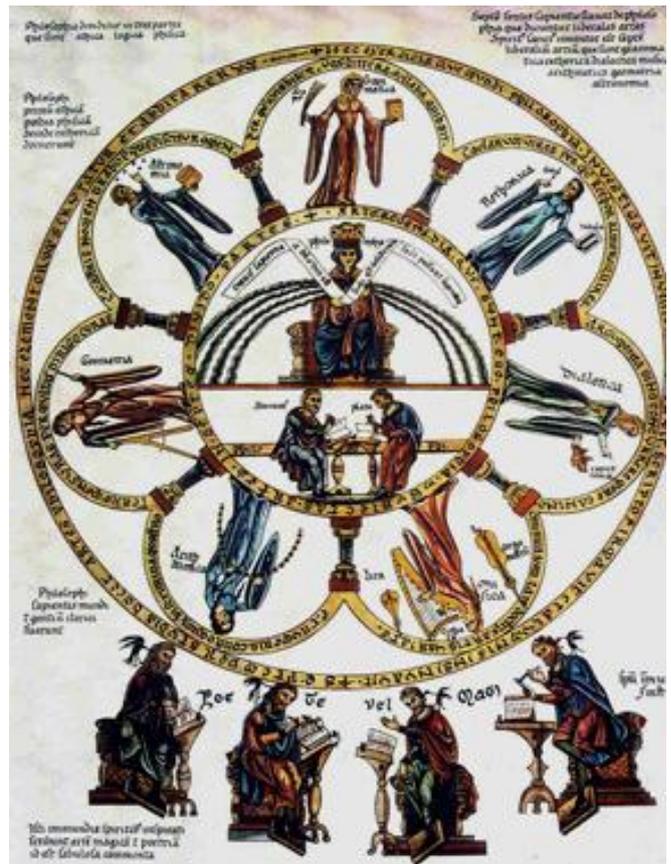
For the rest of our Masonic life we hear and see both subtle, and not so subtle, references to the Seven Liberal Arts and Sciences made up of the;

Trivium (Tri Via, 3 roads or paths) which concerns the study of language i.e.

- Grammar,
- Rhetoric,
- Logic, and the

Quadrivium (Quad Rivium 4 Streams) which concerns the study of numbers i.e.

- Arithmetic (relationships between numbers),
- Geometry (numbers in space),
- Music (numbers in time),
- Astronomy (numbers in space and time).

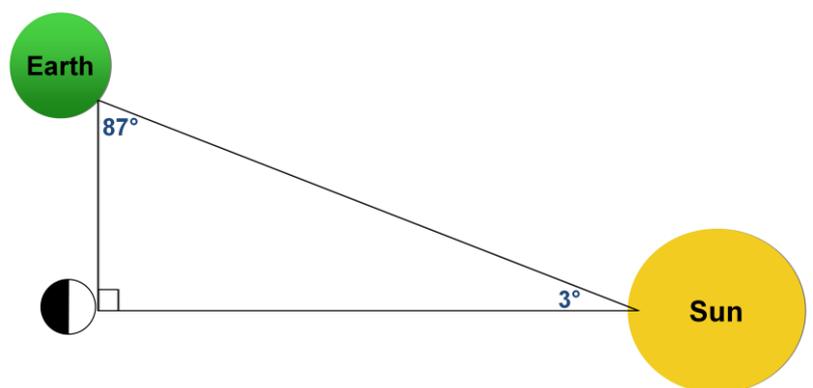


Astronomy and Geometry, have ever been held in high esteem by Freemasons and since time immemorial, Geometry has been recognised as the foundation of Astronomy.

The earliest examples of Geometry being used in Astronomy come from ancient Babylon around 3000BCE. Both the Babylonians and Egyptians were using the formula we know as the 47th problem of Euclid (c300BCE) at least 1500 years before Pythagoras (570-495BCE).

There are records from around 300BCE that Aristarchus used trigonometry and the 47th problem to estimate the size of and distance to the Sun and the Moon.

Around 250BCE, Eratosthenes used Geometry and the 47th problem to calculate the circumference of the Earth and the tilt of the Earth's axis.



Elements of Astronomy are shown, alluded to, or mentioned at almost every step of our Masonic journey from EA to the final degree in every Masonic order. Why is Astronomy considered such an important part of Freemasonry?

This paper is one Brother's interpretation based on his comprehension, and I ask you to accept that while others may comprehend things differently, we are all likely to be correct.

Astronomy

Etymology

Let us begin by reviewing the etymology of two words relating to this liberal Science;

- Astrology
- Astronomy

The word **Astrology** is from the Latin **Astra** meaning **stars**, and the Greek **Logos** meaning **word**, study of, or having to do with.

The word **Astronomy** uses the Greek **Nomia** meaning **law of**, knowledge of, or facts about.

Astronomy, the “knowledge of the stars” came to be used during the 1600s as a description of calculating and foretelling the movements of the heavenly bodies; in other words, heavenly divination.

From about this same time, the word **Astrology**, the “study of the stars”, became more aligned with earthly divination, or fortune telling.

A quick look at some of the other words we will encounter.

Planet comes from the Greek **Asteres Planetai** = wandering stars

Solstice comes from the Latin **Sol** = sun, **Stiti** = stand, or stand still.

Equinox comes from the Latin **Aequus** = equal or level, **Nox** = night.

Zodiac comes from the Latin **Zodiacus**, which in turn came from the Greek **Zodiakos** meaning circle of animals; the same Greek root as the English word Zoo.

In modern western society any mention of the Zodiac immediately suggests Astrology, or fortune telling. Astronomers however, would be quick to point out that the Zodiac is, in fact, the most important group of heavenly bodies, the one that all other astronomy uses as a reference.

Below are the symbols used by Astronomers to represent the Earth and the “Seven Planets” of old.



Sun



Moon



Mercury



Mars



Earth



Venus



Jupiter



Saturn

These Astronomical symbols have remained unchanged for centuries, and are also used in many esoteric studies, Alchemy and Astrology.

Why Astronomy?

Our investigation begins by referring to Albert Gallatin Mackey's 1873 Encyclopaedia of Freemasonry, which says:

"With Astronomy the system of Freemasonry is intimately connected. Many of Masonry's symbols and emblems come from Astronomy. The Lodge room itself is symbolic of the world, and it is adorned with symbols representing the sun and moon whose regularity and precision provides a lesson to the initiate. The pillars of strength and establishment, and the spheres of the terrestrial and the celestial demonstrate the connection of Freemasonry with the heaven and earth, God and man."

Consider for a moment, the number of times you have seen or heard overt references to astronomical bodies in our meetings. When you delve a little deeper into our rituals, you will also find many subtle or even covert references to astronomy.

The overt references begin very early in the Masonic journey. Within minutes of completing his obligation and being introduced to the Three Great Lights, the new Entered Apprentice is hears the first clear astronomical statement. I am referring, of course, to the three Lesser Lights, the Sun, the Moon, and the Master of the Lodge.

After being tested and invested, our new brother encounters the first covert reference to Astronomy, and it is not something he hears, but where he is placed in the North East corner of his intended structure. The NE is (in the northern hemisphere) the corner of the building that sees the first rays of the sun, the corner of the building closest to the sunrise on the day of longest daylight, the Summer Solstice. The corner of the most Light; the corner between the Darkness of the North and the Light of the East.

The second time our new brother Entered Apprentice attends lodge, and witnesses the opening ceremony for the first time, he hears that the three principal officers *mark the Sun at its meridian* in the south, *mark the setting Sun* in the west, and he hears that the Master is placed in the position of the rising Sun, the source of Light, to employ and instruct the brethren in Freemasonry.

Next, he sees the Sun, the Moon and seven stars as the First Tracing Board is displayed. And either at that meeting or soon thereafter, he receives the Lecture on the First Tracing Board.



In the First Tracing Board Lecture are descriptions of the Sun and Moon as messengers of the heavens, the Temple of the Universe being crowned with stars “as a diadem”, the covering of the Lodge being a celestial canopy, the starry firmament being depicted by seven stars, The Blazing Star referring us to the Sun whose benign influence dispenses its blessings, the tessellated border referring us to the Planets forming a skirt work around the Sun.

Never forget that this last part about the Planets was written not very long after Giordano Bruno was burned at the stake for suggesting that the planets went around the Sun instead of the Earth.

During the First Degree, we learn that the Masonic Lodge is situated due East and West, it is boundless or without limit, and its covering is no less than the clouded canopy by day and the starry decked heavens by night. It is apparent from the position, the form, the dimensions, and the principal officers, that the Lodge is meant to represent the entire solar system, with a particular interest in the Sun. Astronomical references continue through the three degrees, and beyond – well beyond.

While we in Australia “*square the lodge*”, in many other jurisdictions this is expressly forbidden. To quote from the ritual of my Mother Lodge within the jurisdiction of the United Grand Lodges of Germany; “*During circumambulation, processions must always proceed clockwise around the Lodge, taking care NOT to square the corners. Movement should be elliptical or circular.*” The brethren are here reminded that they symbolically follow the path of the Sun which, from an earthly point of view, travels in an ellipse.

Many Lodges around the world have the Sun and moon hanging or painted on the wall behind the Master in the East, or stars painted on the ceiling, or even miniature lights in the ceiling to imitate a starry night.

We come across many Astronomical symbols and devices in Freemasonry including the zodiac. For example, each of the three buildings that have been constructed in Great Queen Street as the home of the UGLE, has conspicuously displayed a huge zodiac on the ceiling.

In true Masonic fashion, none of the astronomical references are ever fully explained in our Rituals, but are left for the individual Mason to study and understand in his own way and in his own time.

The wondrous beauty of Masonic learning is that it allows every man to learn in a way that is “*within the compass of his attainments*” and reach his own conclusions in the light of his own beliefs, values, education and interests. It also means that there are many individual interpretations of almost every paragraph, picture and symbol within Freemasonry.

Earliest Records

The earliest evidence of humans studying the heavens comes from cave paintings dated from about 25,000 BCE where Lunar cycles were being recorded.

The records of the Babylonian observations from around 2500 BCE showed that humans in that region had been methodically recording the movements of the fixed stars and the wandering stars (planets) over at least the previous 4,000 years. That's over 8500 years ago!

In general, historians seem to agree that the key driver for humans to understand the heavens was the change to an agricultural society and the need to be able to accurately predict the changing seasons to ensure successful harvests and therefore their survival.

Our ancestors recognized that there were four critical moments during each year that they needed to recognise and be able to predict.

These times are;

- when the Sun reaches its strongest on the longest day of the year, the **Summer Solstice**;
- when the Sun is at its weakest on the shortest day of the year, the **Winter Solstice**; and
- the midpoint between the solstices when the day and night are equal, the **Autumnal Equinox** and the **Vernal Equinox** (Spring Equinox).

It was during the weeks following these four annual events, that it was critical to human survival to take certain actions; planting, harvesting, storing food for the winter.

The knowledge of how to accurately predict these times was a mystery *communicated to the chief priests or Magi alone* who kept this knowledge secret simply because it gave them power.

They used myths and stories that were common knowledge amongst the people (exoteric) and were retold and passed on from generation to generation. When these stories were explained in a different way, an esoteric¹ way, those with the right instruction could use them to understand and predict the movements in the heavens.

This was one of the key teachings of the Mystery Schools from which Freemasonry is often said to have descended.

For the sake of convention, all further Astronomical references will be from the point of view of the northern hemisphere.

¹Despite modern misunderstanding, the word **Esoteric** simply means designed to, or likely to be understood by only a

The path of the Sun: The Ecliptic

We all know that the equator of the earth is tilted at $23\frac{1}{2}^{\circ}$ from its path around the Sun and this tilt is what gives us our seasons.

Viewed from Earth, the Sun appears to move along an orbit called the **plane of the ecliptic** which makes the sun appear to rise and set at different places on the horizon over the course of the year.

As we view the rising Sun throughout the year, it first travels north to the Tropic of Cancer and stands still (Solstice) at the maximum northern declination for 3 days from the 21st to the 23rd of June.

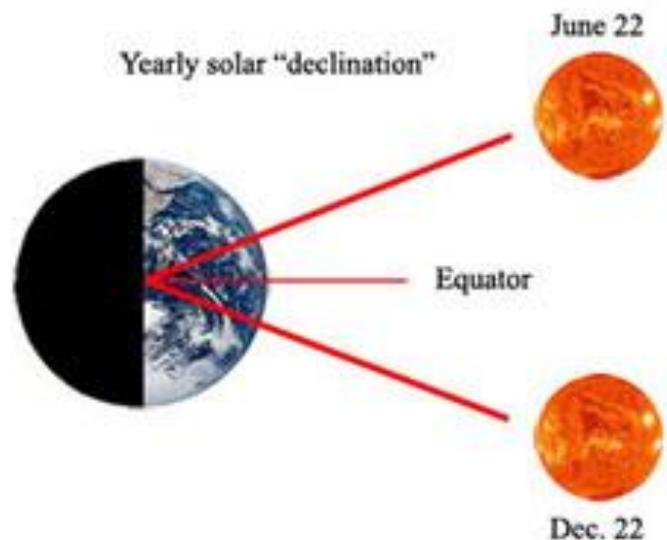
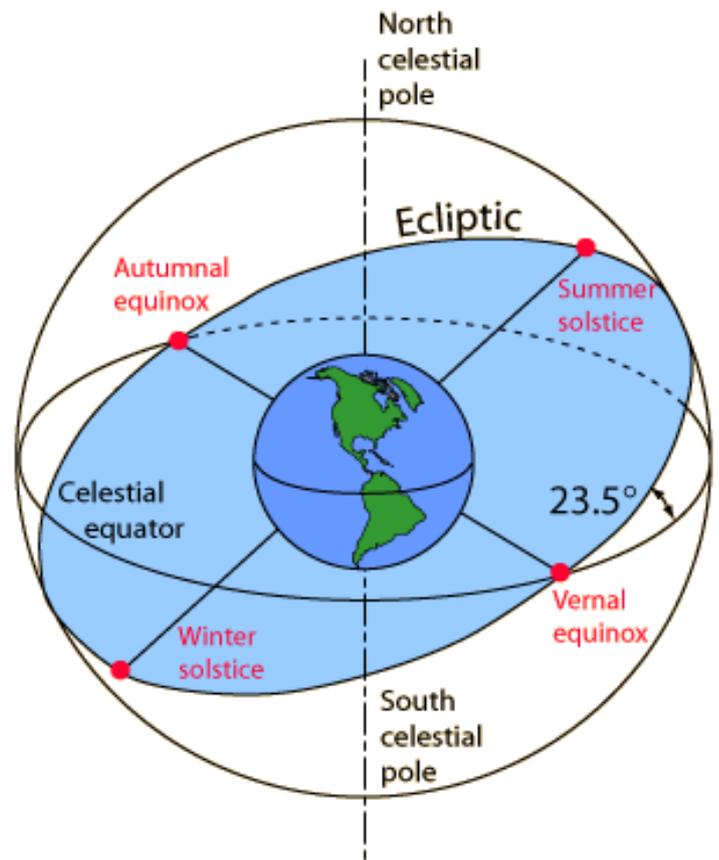
The Sun then begins its migration southward to the Autumnal Equinox in September, keeps travelling southward to the Tropic of Capricorn where it lies dead for 3 days from 22nd to 24th of December at its maximum southern declination.

Then the Sun moves northward again until it reaches the Vernal Equinox and the cycle recommences.

The four most important times of the year, the cardinal points of the **Solstices** and **Equinoxes**, are marked by four First Magnitude stars.

In writings from around 3000 BCE, Zarathustra called these four stars the **Royal Stars**.

During the course of a year, each of these stars is dominant in the night sky for around three months and one can estimate the season by correctly identifying the dominant star.



Humans like patterns because they help us to understand things, help us to remember things, and help us to teach them to others. So it was natural that our ancestors looked for patterns to help correctly identify the Royal Stars.

Our ancestors imagined shapes between and around these stars to look like creatures that then became a part of the stories and myths that enabled them to be remembered and passed on.

They filled the path of the planets with these imaginary shapes or constellations².

They naturally concentrated their imaginations on that band of the sky where the Wandering Stars travelled; on or near the path of the Sun, or the ecliptic.

On a band of sky which lies roughly 8° either side of the Ecliptic is where we find the constellations of the zodiac circle of animals.



This thin band of sky is divided into twelve segments of 30° each, with one constellation contained, or at least mostly contained, within each segment.

As far as we know, the concept of the zodiac evolved from Sumerian and Babylonian astronomy, and was later influenced by the Egyptians and Greeks. The Romans gave the constellations the Latin names we know them by today.

From a very early time the twelve zodiac constellations became fairly standardised in western and middle eastern civilisations. They were so important to agriculture and navigation that they have remained remarkably unchanged for over 5000 years despite travelling across many different languages and cultures.

But why twelve constellations?

Why not ten or some other number?

² Constellation for the Latin **Con** = Together with, and **Stella** = Stars

The Number Twelve

The number twelve has since time immemorial been a highly respected and highly practical number. It is the lowest number divisible by more than two factors. Eleven is a prime number, ten only has two factors being five and two, nine only the factor of three, eight only two and four, seven is a prime number, six only two and three, and five is a prime number. You get the idea.

Twelve, however, divides into six, four, three, and two, giving it a wide range of practical uses where there is a need to divide things up into whole numbers, from the compass rose to calendars to clocks to weights and measures. As a result, people in general, and mathematicians in particular, tend to get excited about the number twelve and apparently they always have done.

- The Sumerian government was always composed of twelve people
- The Babylonians used the number twelve for calendars and times
- The Greeks imagined twelve Gods on mount Olympus, and many Gods had twelve sons
- The Zoroastrians had twelve commanders of light, light being a symbol for the Sun
- Pythagoras taught that the number twelve had a divine, profound mystical meaning
- Jacob, AKA Israel, had twelve sons
- There were twelve tribes of Israel
- Mithras had twelve disciples
- Christ had twelve disciples
- There are twelve days of Christmas
- The Shiite Muslims list twelve ruling Imams following Muhammad
- There are twelve notes in the musical scale (Western music descended from Pythagoras)
- There are 12 inches in a foot
- At the equinoxes, there are twelve hours of day and twelve hours of night
- The Hindu Sun Deity Surya has twelve names, twelve mantras, and rides across the sky in his chariot drawn by seven horses who represent seven colours (rainbow) and seven chakras.
- Hercules had twelve labours
- Arthur had twelve knights at his Round Table
- Twelve is the product of 3 and 4; Triangle and Square; Spirit and Matter; Divine and Human
- Twelve is the sum of 5 and 7; Life and Good Fortune
- In several early cultures, twelve was the number of perfection

While many groups, such as the early Gnostics, understood the allegory of the twelve disciples of Mithras to be symbolic of the journey of the sun throughout the year, other groups understood the allegories literally and believed in twelve actual people.

The timeless symbol of the One and his Twelve has featured in myths and stories as long as man has told them. We see it in Moses and the twelve tribes seeking the promised land, in Hercules and his twelve labours, in Mithras and his twelve disciples, in King Arthur and his twelve Knights of the Round Table, and in the stories of Robin Hood and his twelve merry men; all allegories of the Sun and his twelve houses in the heavens.

The Vernal Equinox

For thousands of years, the start of Spring, the Vernal Equinox, has been a most important time of the year for human survival and civilisation.

For most cultures throughout history and even (latest evidence shows) pre-history, the Vernal Equinox was the start of a new year.

The great importance of the Vernal Equinox has been recognised in many ways by civilisations since the dawn of time.

Note at right the representation of Eostre, the Germanic Goddess of Spring with the symbols of fertility like, rabbits, male and female symbols at the bottom, all in the shape of an egg.

If we consider just the western traditions, the Vernal Equinox is used by the church to determine the Feast of the Annunciation, and to set the date for Easter.



In the year 725 the venerable Bede wrote in **The Reckoning of Time** that;

“The Sunday following the full moon which falls on or after the (Vernal) Equinox will give the lawful Easter.”

From then until now this is how Easter has been determined.

The Vernal Equinox was the start of the new year in England until 1752 when they finally adopted the Gregorian calendar, 35 years after the first Grand Lodge was formed in London. Consider for a moment what that might mean to those who wrote our rituals.

The zodiac also commences at the Vernal Equinox, which on the modern Gregorian Calendar is around the 22nd of March.

The order of the constellations from the Vernal Equinox is:

- Spring: Aries the Ram, Taurus the Ox, Gemini the Twins.
- Summer: Cancer the Crab, Leo the Lion, Virgo the Virgin.
- Autumn: Libra the Scales, Scorpio, Sagittarius the Archer.
- Winter: Capricornus the Sea Goat (The Southern Gate of the Sun), Aquarius the Water Bearer and Pisces the two Fishes.

Scorpio is Different

Let us briefly digress to discuss Scorpio for a moment. To the Egyptians the Scorpion represented death and initiation, and was particularly related to their sacred mysteries. In Egyptian temple texts, the Scorpion is seen along with two other creatures. The first is the Phoenix rising from death in the fire, and the second is the Eagle rising into the Air.

So the Scorpion, the Phoenix, and the Eagle together represent the process of initiation from a neophyte to a master in three steps.

In the zodiac they are represented together in one constellation. Scorpio, alone of the twelve constellations, has three different creatures associated with it, and it appears on the Zodiac just prior to the death of the Sun in Capricorn.



To the Egyptians, probably to earlier civilisations, and certainly to later civilisations like the Greeks, this threefold symbol identified an initiate, who during the Sacred Mysteries represented the Sun, and was about to die symbolically before rising once more to a new life in the glory of the light.

The Classical Elements

The Greek philosopher Empedocles c.490 - 430 BCE, whom Aristotle called the Father of Rhetoric, gave us the cosmogenic³ theory of the four indestructible and unchangeable roots which Plato later named the four Elements.

Actually Plato said there was five elements, the Quintessence or fifth element being Ether or Spirit. He also related the five elements to the five pointed star, or pentagram.

The classical elements Earth, Air, Fire, and Water persisted throughout the Middle Ages and into the Renaissance, where they were heavily used in Rosicrucian and Alchemical writings of the period. In alchemical writings, each constellation of the zodiac is associated one of the four classical elements.

In alchemy, the Fire and Air signs are considered positive, extrovert, masculine signs. The Water and Earth signs are considered negative, introvert, feminine signs. They are identified as four groups of three signs (4 triangles) as follows:

Fire signs	Aries, Leo, Sagittarius
Earth signs	Taurus, Virgo, Capricorn
Air signs	Gemini, Libra, and Aquarius
Water signs	Cancer, Scorpio, and Pisces

Fire	Earth	Air	Water
			
Aries	Taurus	Gemini	Cancer
			
Leo	Virgo	Libra	Scorpio
			
Sagittarius	Capricorn	Aquarius	Pisces

³ Cosmogogenesis is the origin and development of the Cosmos, the creation of the universe.

Christian Astrology

Before it finally became heretical there was a great deal of study in Astrology by the early church leaders and scholars. Christian astrology identifies three qualities and relates them to the three aspects of God in the trinity.

They are identified as three groups of four signs.

(3 crosses or 3 Squares depending on how you connect the signs)

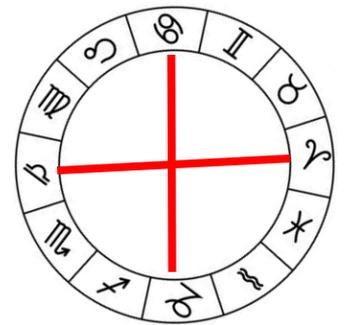
The three qualities are:

Cardinal,	(Active,	Resisting,	Corinthian,	Beauty,	JW)
Fixed,	(Balancing,	Mediating,	Ionic,	Wisdom,	Master)
Mutable	(Passive,	Accommodating,	Doric,	Strength,	SW)

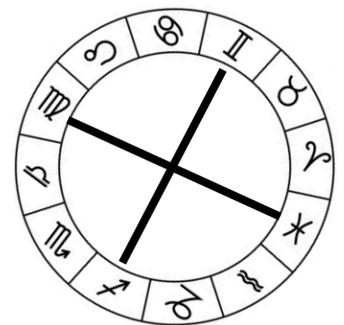
These qualities are each then linked to four specific constellations within the zodiac.

The **Cardinal** Signs are the fundamental signs of the Zodiac and are generally considered to be active or **resisting**. The word cardinal simply means fundamental, or most important. They are the constellations of **Aries, Cancer, Libra and Capricorn** which contain the Cardinal points of the year.

Aries	Spring Equinox
Cancer	Summer Solstice
Libra	Autumnal Equinox
Capricorn	Winter Solstice

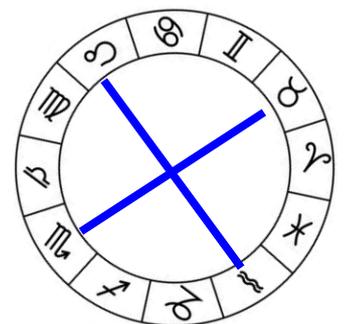


The **Mutable** signs of **Gemini, Virgo, Sagittarius and Pisces**, also called the common signs, are the link or bridge that connects the change of seasons, the end of one season to the start of the next and are generally considered to be passive or **accommodating** signs. The word mutable simply means capable of change, or having a tendency to change or mutate.



The **Fixed** signs **Aquarius, Taurus, Leo, and Scorpio** are the sustainers of the Zodiac. They are like four pillars holding up the structure, or the four corners of the year and are generally considered to be balancing or **mediating** signs. More about the fixed signs in a moment.

These three qualities, Cardinal, Fixed and Mutable are sometimes referred to as crosses in Christian Astrology because each of the three qualities of four constellations forms a cross when drawn on the zodiac, giving us a trinity of crosses within the twelve constellations of the zodiac.



Hmm, where have we seen three crosses together before? (Calvary, Rose Croix Collar, etc.)

The Royal Stars

Those four stars that marked the corners of the year were variously known by different civilisations as The Royal Stars, The Guardians of the Sky, The Pillars of the Year, The Watchers (see the Book of Enoch, Book of Jubilees), and The Archangel Stars. Today we know them by the names Fomalhaut, Regulus, Aldebaran, and Antares.

Fomalhaut Also called the Watcher of the South and the star of the Archangel Gabriel. The name comes from the Arabic **Fom al-Hūt** (فم الحوت) meaning *Mouth of the Whale*. The star is located in the mouth of Pisces Australis, the Southern Fish, not to be confused with the two fishes of the constellation of Pisces. The Southern Fish is depicted with its mouth open drinking the water flowing from the jar of **Aquarius** the water bearing **Man**.

Regulus Also called the Watcher of the North and the star of the Archangel Raphael. The name of this star was given by the Polish Astronomer Copernicus as a Latin equivalent of the Arabic word for Prince or little King. Depending on the particular graphical representation, Regulus is located either as the heart of **Leo** the **Lion**, or on the right foreleg of Leo (i.e. on the Lions Paw).

Aldebaran Also called the Watcher of the East and the star of the Archangel Michael. The name comes from the Arabic **Al Debaran** (الذبران) meaning a follower or disciple. It is located in the right eye of **Taurus** the **Bull** and is seen to be following the Seven Sisters or the Pleiades which are themselves located on the left shoulder of Taurus. The seven stars shown on the First Tracing Board and the Royal Arch Tracing Board are generally accepted to be the Pleiades.

Antares Also called the Watcher of the West and the star of the Archangel Uriel. The name comes from the Greek **Ant Ares** meaning Against Ares; the Greek name for Mars. It is a red star that is sometimes confused with the planet Mars. Antares is located in the constellation **Scorpio** representing the Scorpion, the Phoenix, and the **Eagle**.

The Fixed Signs

The four Royal Stars can thus be seen to be located in the four constellations of Aquarius, Leo, Taurus and Scorpio. The four constellations that are known as the “**Fixed Signs**” or **the Man, the Lion, the Ox, and the Eagle**. Together these signs make up the Great Fixed Cross of the heavens.

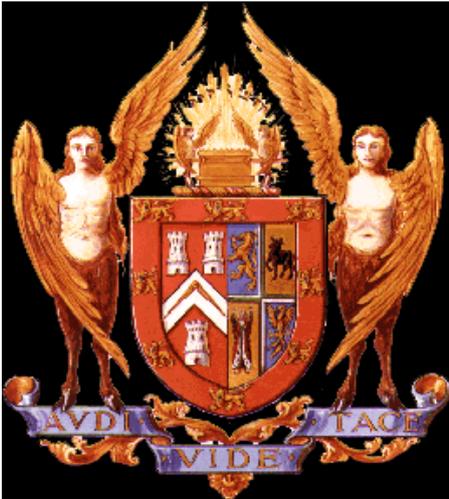
As the Sun progressively rises in each constellation of the zodiac during the year, we see it allegorically pass through its youth, adulthood, old age, and then death – to be reborn once more. It grows stronger in **Taurus** following the Vernal Equinox in Aries. Reaches its full splendour and strength in **Leo** following the Summer Solstice in Cancer. Becomes old and weak in **Scorpio** following the Autumnal Equinox in Libra. Is reborn in **Aquarius** following its death at the Winter Solstice in Capricorn.

The four creatures, the man, lion, ox and eagle, are mentioned many times in ancient writings from many different cultures and were associated with the four corners of the year. The most well known place that we see them in our society is of course in the Bible. There are two specific places in the Bible where the four creatures are mentioned together.

***Ezekiel 1:10** As for the likeness of their faces, they four had the face of a man, and the face of a lion, on the right side: and they four had the face of an ox on the left side; they four also had the face of an eagle.*

***Revelations 4:7** And the first beast was like a lion, and the second beast like a calf, and the third beast had a face as a man, and the fourth beast was like a flying eagle.*

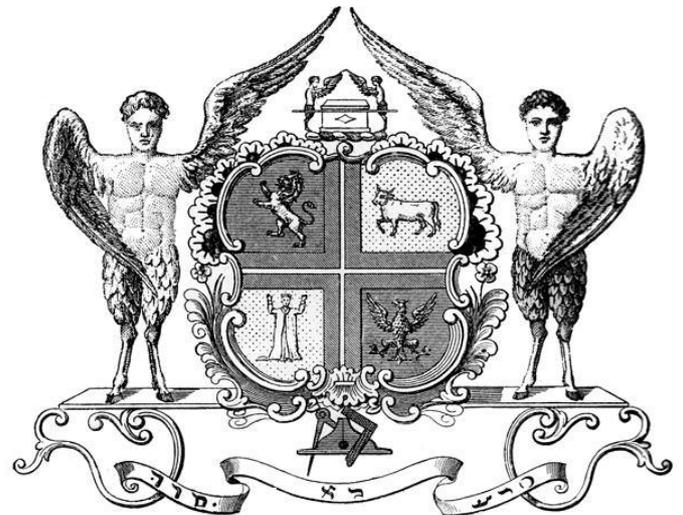
The Four Creatures



The four creatures, the Man, the Lion, the Ox, and the Eagle are therefore symbols of the Fixed Signs, four corners of the year, or the Great Fixed Cross of the heavens.

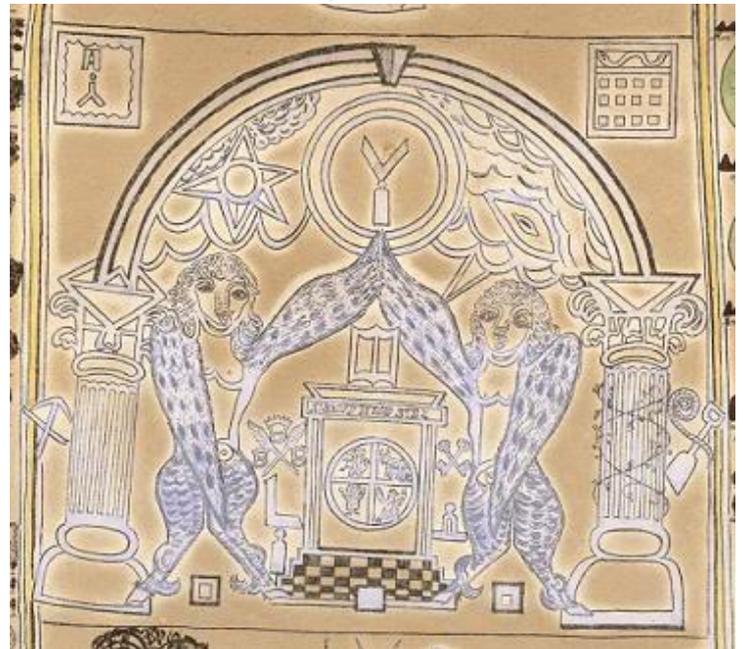
When they are shown together on heraldic standards, they are almost always shown in the four quarters of a cross.

Examples of this can be seen on the Crests of many Grand Lodges around the world like the UGLE Crest at right.



They can be found on the Crest on the Royal Arch tracing board and on the Royal Arch Banner shown at right.

Notice also the figures standing either side of the Royal Arch Crest, who have the body of a man, the wings and legs of an eagle, and the feet of an ox.



Freemasons have used representations of the Four Creatures for centuries.

The wood panel (above left) was painted by Jacob Leoni in 1680.

The Kirkwall scroll (above right) has been carbon dated to c. 1480, over 530 years ago.

We also encounter the four Fixed Signs in representations of the Babylonian Cherubim, which is also a human / animal hybrid creature from 4500 years ago.

The Cherubim has;

- the head of a Man,
- the back and tail of a Lion,
- the body of an Ox, and
- the wings of an Eagle.

The Lion represents strength and power.

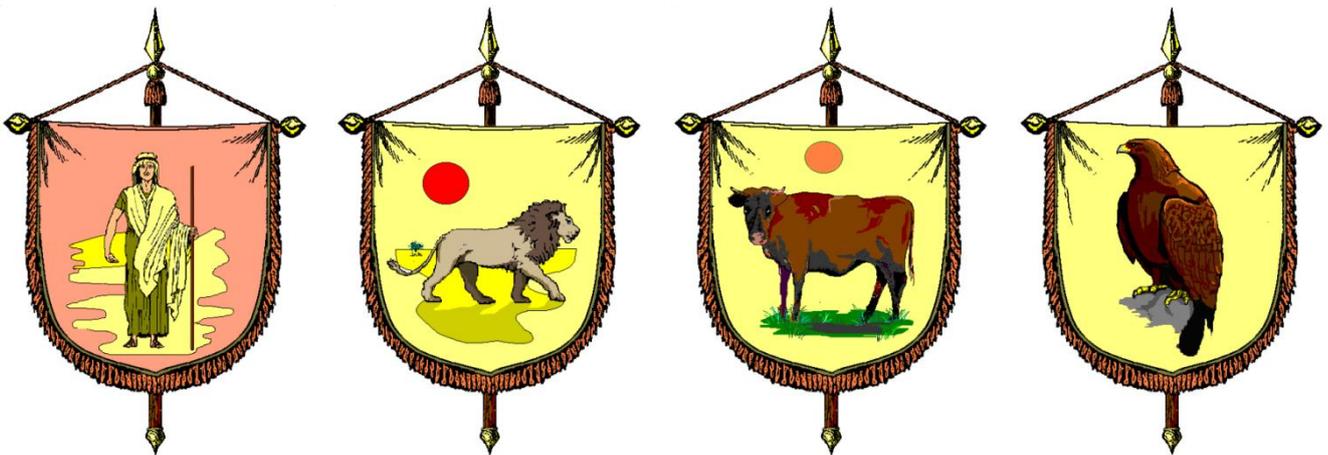
The Man intelligence and understanding.

The Ox patience and assiduity (diligence).

The Eagle promptness and celerity (swiftness of action).



Royal Arch Masons will of course recognise these four creatures as being on the four principal banners in the East of the Chapter.



Ancient Astronomical Legends

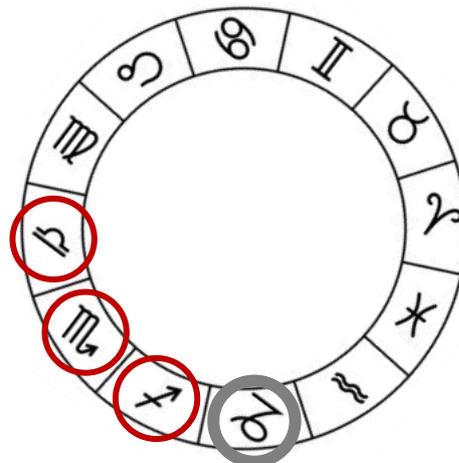
According to ancient astronomical legends from diverse cultures, the Sun is said to be progressively killed by the three months of Autumn to lie dead at the Winter Solstice.

The legends tell us the following:

Starting at the Autumnal Equinox, the summer Sun is first attacked by **Libra** but recovering from the shock he makes it through to the end of the constellation relatively unharmed.

Next he is assaulted by the venomous **Scorpio**. He loses the majority of his power, and staggers faintly on and leaves this constellation considerably weakened.

The third attack comes from the archer **Sagittarius** whose arrow proves fatal.

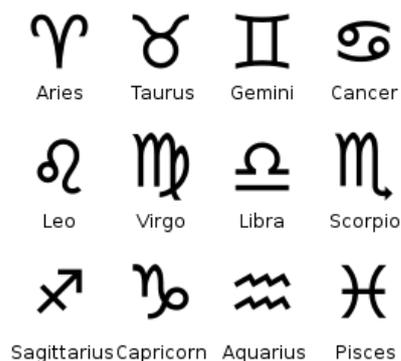


When he leaves the third autumnal sign he lies dead at the Winter solstice in **Capricornus** for three days from 21 to 24 December, ready to be reborn.

According to the ancients, **Capricornus** was the house of the Planet Saturn, the Greek "**Kronos**" or Father Time, who destroys all things.

The figure of Father Time with his scythe is still an emblem of death, sometimes called the Grim Reaper, and is also associated with the symbol of the hourglass.

The Sun is considered to be reborn on the 25th of December and grows each day until it reaches the Spring or Vernal Equinox around the 21st of March.



After the Vernal Equinox in Aries, the Sun is considered to be resurrected from its cold death, and the bounty of the earth returns. The days become warmer and grow longer, the flowers bloom, and the hope of plenty is renewed.

As one Masonic Ritual puts it:

"The blazing Star has reappeared in all its splendour, our altars are renewed, the true light restored to our eyes, the clouds of darkness dispersed."

Following the Vernal Equinox in Aries, the Sun enters the Vernal constellations of **Taurus** and then **Gemini** during which time he revives in both light and heat but does not yet reach the full power of his adulthood.

Where Taurus and Gemini failed in their attempt to lift the Sun to its full strength at the summit of the zodiac, **Cancer** succeeds with the aid of **Leo** who leads the Sun with his powerful lion's paw (Regulus) to regain his full strength once more.

Allegorically, the Sun is slain by the three Autumnal months, lies dead through the three Winter months, Raised again by the three Vernal months, and returns to his full strength, beauty and glory in the three Summer months.

Each year the tragedy of death and the victory of resurrection is repeated.

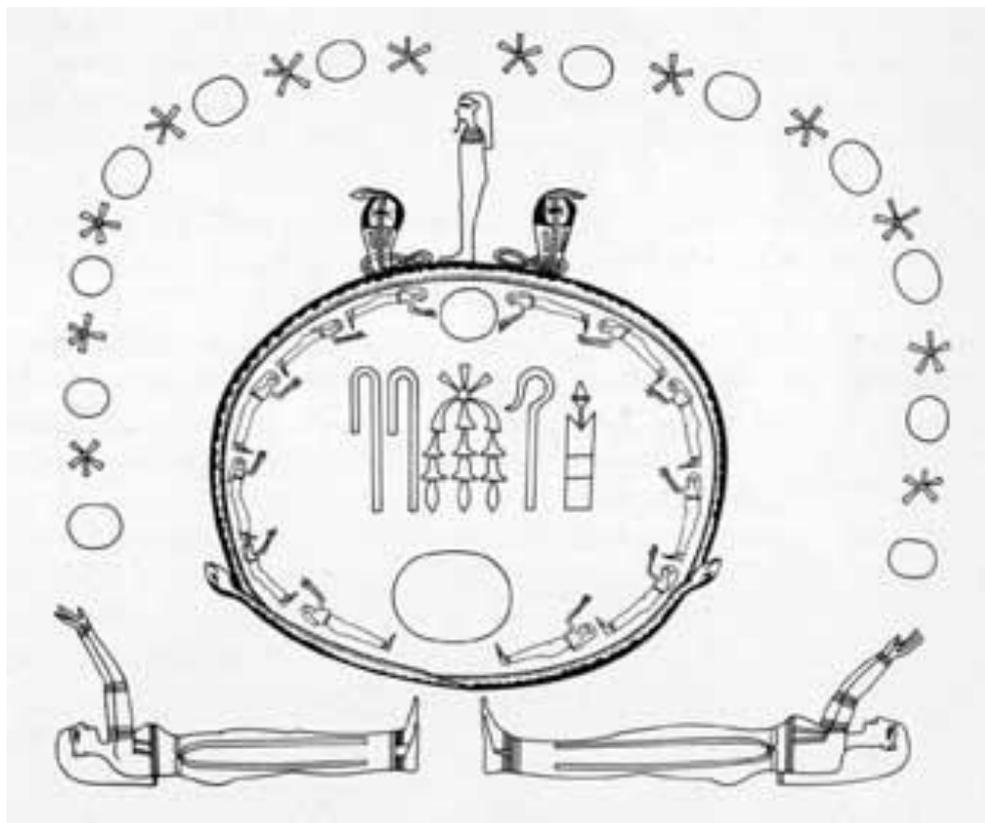
Quote from Robert Hewitt Brown, *Stellar Theology and Masonic Astronomy*, 1882

“As long as this allegory is remembered, the truths of Astronomy will be perpetuated, and the sublime doctrine of the immortal nature of man, and the other great moral lessons they are thus made to teach will be illustrated and preserved.”

Quote from Rev. Charles H. Vail 32°, *The Ancient Mysteries & Modern Masonry*, 1909

“H:A: is identical with the Sun-Gods of all nations – it is a universal glyph, for all real Initiation is an internal process, a regeneration, the consummation of which is the Perfect Man or Master, the goal of human evolution. The H:A: Legend and the Master's Degree are derived from the Mysteries.

They are the latest expression of the old Sun Myth and the Ancient Rite. We see thus that the story of H:A: is but a variation of the ancient and universal legend, in which Osiris, Adonis, Dionysus, Balder, Hu, and many more have played the principal part.”



Precession of the Equinoxes

The Earth not only rotates on its own axis, the axis itself also wobbles, a bit like the motion of a spinning top.

This wobble of the axis of the Earth causes our North Pole star to change over time.

An imaginary line extending from the Earth's axis at the North Pole, will at the current time point very close to a star we call Polaris, the Pole star. By the year 2095 CE, Polaris will be at its closest alignment with this imaginary line. By the year 4000 there will be no pole star, just as there was no pole star two thousand years ago.

The next star we can call a Pole star after Polaris will be Al Deramin which will be aligned around 7500 CE.

Around 13,000 years from now, the bright star Vega will be the Pole star again, as it was around 13,000 years ago.

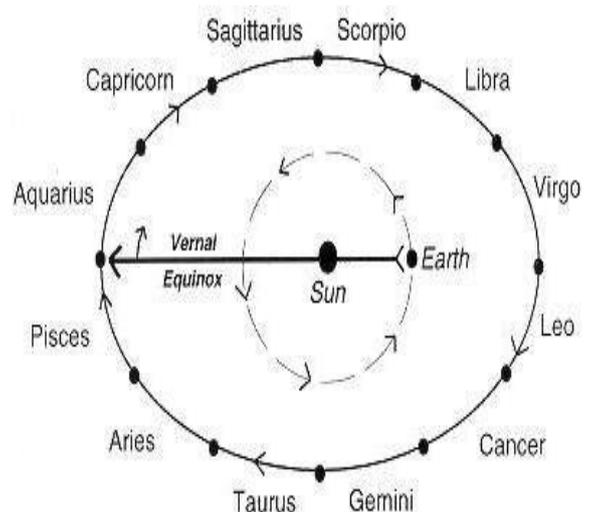
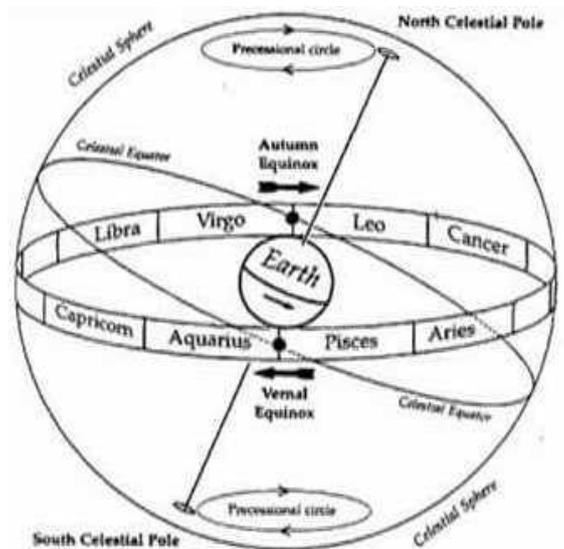
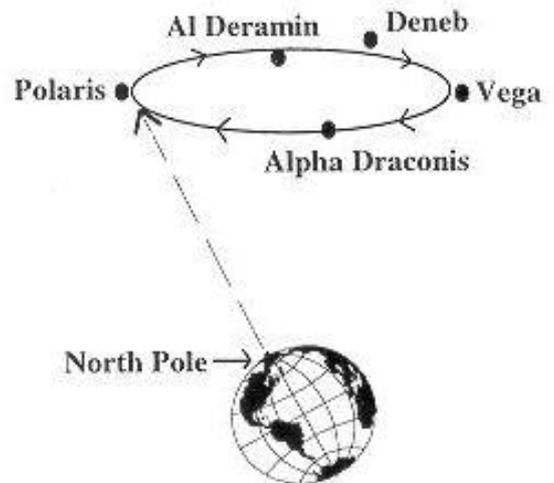
This wobble also makes the equinoxes move westward, or precess, along the ecliptic relative to the fixed stars at a rate of about 1 degree every 72 years.

The net effect of this is that the Sunrise at the Vernal Equinox can be seen to move slowly backwards through the zodiac year after year. This is called the Precession of the Equinoxes.

The Vernal Equinox gradually travels backwards through each constellation of the zodiac for about 2150 years referred to as an Age. To complete a full 360° precessional cycle through all of the 12 constellations takes approximately 25,800 years.

This is referred to as the Great Platonic Year and each of the 12 Ages takes its name from the constellation. The Zodiac is therefore the face of the Great Galactic Clock of the Platonic year.

At the present period of history, the Vernal Equinox occurs at the intersection of the signs of Pisces and Aquarius. Thus, it is said that the Age of Pisces is coming to an end and we are entering the dawn of the Age of Aquarius.



There is disagreement over the dates that determine the beginning and end of each Age because the 30 degree segments of the sky belonging to each zodiac constellation are somewhat subjective and their starting and ending points are themselves not universally agreed.

However, the following dates are reasonably indicative and somewhat accepted.

Age of	Timeframe	Notes
Leo	10,750 to 8600 BCE 	Referred to as the Golden Age, the first Fixed Age The age of the Lion, Man, Ox and Eagle Neolithic period Legends of great civilisations like Atlantis
Cancer	8600 to 6450 BCE 	Referred to as the Mother Goddess Age Considered the period of the rise of civilisation Goddess images from this period have been found throughout the near east and eastern Europe.
Gemini	6450 to 4300 BCE 	Referred to as the Communication Age The beginnings of writing are found in this period and evidence of early trade
Taurus	4300 to 2150 BCE 	Referred to as the Agricultural Age, the Second Fixed Age Evidence of Calf or Bull worship by the Minoans, the Egyptians in the form of Apis, and the Israelites much to the chagrin of Moses and Aaron. Images of calves, horns or bulls, from this period have been found in abundance.
Aries	2150 BCE to 1 CE 	Referred to as the Age of Wars or the Age of the Ram. Names from this period include Ra, Amun Ra, Ramses, Rama, Brahma, Abraham. Images of the Ram and Lamb are common in this period.
Pisces	1 CE to 2150 CE 	Referred to as the Age of Monotheism and Spirituality The advent of religions like Christianity, Buddhism, Islam. Images of the Fish are common.
Aquarius	2150 to 4300 CE 	Referred to as the Age of freedom and group consciousness The third Fixed Age. The exact opposite of the Golden Age. Whether this is a new beginning, or the end depends on which philosophy you subscribe to. Is your glass half full, or half empty?

The Galactic Cross

In nearly every civilisation from which we have some records, the Age of Leo was seen as the Golden Age; the end of the last Ice Age. It is from this point that the Great Galactic Clock is considered to have begun ticking.

The Galactic Cross that Started out as the Fixed Cross has been slowly turning, or precessing, since that time and moving away from the Fixed Cross.

As you can see, the Great Galactic Clock has travelled half of one full rotation, or 180 degrees since the first Fixed Age the Golden Age or the Age of the Lion, through 90 degrees to the second Fixed Age the Age of the Ox, and after travelling another 90 degrees is now entering the third Fixed Age, the Age of Man.

This was seen by the ancients as the lowest ebb of the Great Galactic Clock, opposing the Golden Age of the Lion, and therefore to some an ill omen. Esoteric societies, mystery schools, prophets, and even the Mayans have predicted either a new beginning at the Age of Aquarius, or the end of everything.

For the third time in human history, the Galactic Cross points to the Man, Lion, Ox and Eagle.

Reality versus Ritual

We discovered earlier that the zodiac starts at the Vernal Equinox and is almost always shown starting with the constellation of Aries. However, as we have just seen, the Vernal Equinox has not actually been in the constellation of Aries for over 2000 years.

When the rituals of Freemasonry were being put on paper in the 1600s and 1700s, the Vernal Equinox was well and truly in the constellation of Pisces, the Age of Pisces having started around the first year of our current calendar.

One has to be curious why our rituals were created showing the Vernal Equinox in Aries.

Perhaps it is simply because the Traditional Histories that our rituals are based on, are centred around the Temple of Jerusalem, which in all of its incarnations existed only during the Age of Aries and was finally completely destroyed near the start of the Age of Pisces in the year 70CE.

Or are our rituals pointing at that period of history for some other reason?

Nowadays the Astronomers start the zodiac at the cusp of Aquarius and a zodiac that starts at Aries is referred to as a **Traditional Zodiac**.

This **Traditional Zodiac** actually sounds quite appropriate for Freemasonry. All that follows will assume the Traditional Zodiac rather than the scientifically correct, current Astronomical Zodiac.

Astronomical Temples

Temple of the Seven Planets ☉ ☾ ♀ ♂ ♃ ♀ ♄ ♅ (Sun, Moon, Mercury, Mars, Venus, Jupiter, Saturn)

From around 2500 BCE, the Sābian city of Harran, located in what is now south eastern Turkey, was known to have had seven gates and seven temples dedicated to seven Babylonian gods each associated with one of the seven planets. The Sābians (صَابِئَة pronounced Saab-iyā) also became known as the Chaldeans or Chaldees.

It was, of course, Nebuchadnezzar (604 to 562 BCE) the Chaldean king who took the Jerusalemites into captivity in Babylon. As part of his major building program for the city of Babylon Nebuchadnezzar constructed a giant ziggurat called Etemenanki, or the **House of the Frontier Between Heaven and Earth**, which sat next to the Temple of Marduk in Babylon. It is believed that it was this immense ziggurat that provided the inspiration for the biblical story of the Tower of Babel. It is identified as such in both the Talmud and in Arab tradition.

However, the grandest and the most interesting Babylonian temple is that of Borsippa, 18 Kilometres South West of Babylon, which has been identified as the **Temple of the Seven Spheres**. See pictures at right. A well-known inscription on the bricks and cylinders deposited at the corners indicates that it was **reconstructed** by Nebuchadnezzar.



By the time of the captivity, the Chaldeans of Babylon had at least 2000 years of astronomical knowledge behind them. The astronomical knowledge that the Jews used to build the second temple was almost certainly of Babylonian origin.



Sometime after 700 CE, the Sābians were recorded as a monotheistic Abrahamic group in the Quran and accepted as *People of the Book* along with other monotheists the Jews and the Christians.⁴

There is however, strong evidence that their monotheism was not exactly orthodox, evidence that it was in fact, heavily astronomical in nature; their monotheism being an expedient choice for survival during in the spread of Islam.

According to the Arab historian Ibn Shaddad,⁵ each of the seven temples of Harran was constructed to a particular geometrical form, associated with a particular planet, a particular metal and had its own colour as shown.

Ninurta	Saturn	Lead	Black
Ishtar	Venus	Copper	Blue
Nabû	Mercury	Quicksilver	Brown
Marduk	Jupiter	Tin	Green
Nergal	Mars	Iron	Red
Sîn	Moon	Silver	White
Shamash	Sun	Gold	Yellow

⁴ The Sābians are not the same people known as the Sabaeans (السبأيون pronounced Saba'iyūn) of Sheba, now southern Yemen, whose etymology is unrelated being spelled with an initial Arabic letter Sin (س) instead of Sad (ص).

⁵ Bahā' ad-Dīn Yusuf ibn Rafi ibn Shaddād (شَدَاد ابْن ابْن الدِّين بَهَاء) (the honorific title Bahā' al-Dīn means splendour of the faith) 1145-1234 was a Muslim jurist and scholar, an Arabian historian of great note, notable for writing a biography of Saladin whom he knew well.

Astronomical Synagogues

Astronomically based temples did not end with the Sabians or Chaldeans. The following is an extract from an article in the Biblical Archaeology Review that made public some very interesting ruins in Palestine.

At the end of December 1928 a work crew from kibbutz Beth Alpha (founded 6 years earlier) was digging yet another drainage canal when someone's shovel started picking up pieces of mosaic. Work on the canal stopped at once.

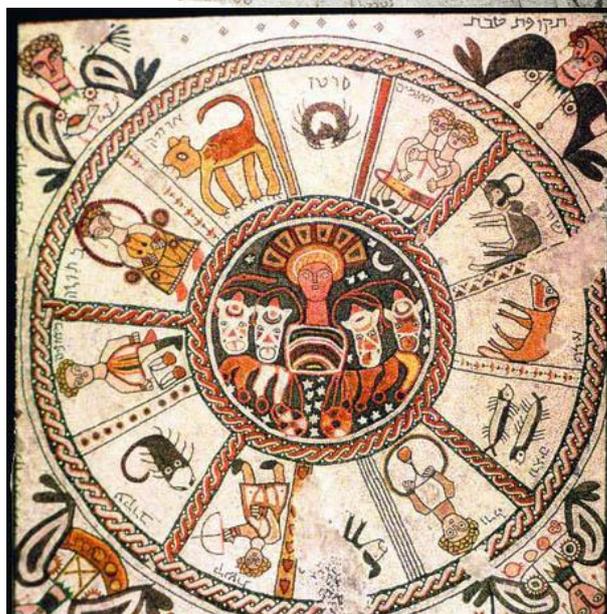
They called the Hebrew University (then all of 3 years old!) and within a fortnight they had begun to excavate the site. The mosaic they uncovered was almost complete. When it was completely exposed, the mosaic was 28 meters long and 14 meters wide.

The middle square, the first to be uncovered, was the most spectacular. Figures of four women were at the four corners, with inscriptions in Hebrew identifying each as a season of the year. Inside the square was a wheel, 3.1 meters in diameter, with a smaller circle (1.2 m) in its centre.

The wheel was divided into 12 panels, each with a figure and a name identifying it as a sign of the zodiac. And in the centre, a man was pictured driving a quadriga (four-horse chariot) through the moon and stars. Rays of the sun were coming out of his head; it was clear that he was Helios / Apollo, god of the sun.

In another panel, closer to the front door, they uncovered a scene easily recognizable to anyone who knows the Bible. In Genesis 22, Abraham is about to sacrifice Isaac. In case we might have forgotten, the names of Abraham, Isaac and the ram are spelled out in inscriptions above their heads, and the hand of God stopping the sacrifice is clearly marked with the Hebrew words "do not put forth your hand [against the lad]."

*Beth Alpha was definitely a synagogue, a Jewish house of worship, and it is the best preserved of the **seven we know about** containing Zodiacs.*



Ain Dara – in the style of KST

Northwest of Aleppo in Syria, there is a temple ruin known as the Ain Dara temple. It is noted for its similarities to Solomon's Temple as described in the Bible. According to the excavator Ali Abu Assaf, it was in existence from 1300BCE until 740BCE covering the period of the building of Solomon's Temple around 1000-900BCE. The temples of Emar, Munbaqa, and Ebla are also comparable.



From the shadows it can be easily seen that it faces due east. The entrance to the porch has the bases of two pillars remaining. The remaining external carvings depict lions and sphinxes (cherubim). There are three steps leading to the porch and another three leading to the middle chamber. At the rear there was an inner sanctum, raised even higher.

In addition to the Hebrews, the Sābians preserved much of Babylonian astrological teachings right up until into the 10th century CE. This is where the western knowledge of the seven “Wandering Stars” or Planets, our zodiac and the myths associated with them is believed to have originated.

These three finds, Borsippa, Beth Alpha, and Ain Dara, along with hundreds of others, make it absolutely clear that Astronomically based Temples have existed for most of human history. Investigate the placement of Christian Cathedrals – same story.



The Planets and the Alchemists

The medieval Hermetic Philosophers and Alchemists were well versed in ancient mythology because it was their prime source for understanding the human condition and the world and they derived much of their symbolism from it.

They also understood that the myths were symbolic and allegorical. The following is one list of metals used by alchemists and their associations with the Planets. There seem to be several different lists of associations.

Lead:	the planet Saturn	the colour black
Copper:	the planet Venus	the colour blue
Mercury:	the planet Mercury	the substance quicksilver, the Matter to be worked on. For the Hermetic Alchemists it is of course yourself, which includes your body, your mind (intellect) and your divine essence or soul.
Tin:	the planet Jupiter	the colour gray
Iron:	the planet Mars the friend and lover of Venus	the colour red, rust-red, or Rubedo
Silver:	the Moon	the colour white, or Albedo, or the Matter that has been completely purified
Gold:	the Sun	the last state; the colour Gold or Yellow Here the Matter is called Sulphur

Interestingly, the Alchemists' use of the seven planets as a progression linked to passing through the seven stages of the Magnum Opus or Great Work, has a parallel in Gnostic teachings.

The Gnostics explained that man here on Earth lives basically in a state of spiritual darkness, and through initiation man ascends through the seven worlds or spheres created by the Archons⁶ to eventually arrive at the eighth sphere where he will shine in divine glory. The seven spheres were associated by the Gnostics with the seven planets, and each one hindered the progress of the spiritual person.

⁶ Archon: Greek word meaning ruler or lord, derived from the same root as monarch, hierarchy and anarchy

Some Masonic Astronomical Symbols

The Seven Stars

The seven stars on the First Tracing Board are taken to be the seven stars of the Pleiades. With a telescope you will see a great many more stars than seven, but seven is the traditional number.

The seven stars are also linked with the seven days of the week, seven musical notes, seven colours of the rainbow, and the seven planets anciently known.

There are (somewhat amazingly), seven references to the Pleiades or the seven stars in the Bible:

Job 9:9 He is the maker of Arcturus (The Bear) Orion, and the Pleiades, and the chambers of the south.

Amos 5:8 Seek him that maketh the seven stars and Orion, and turneth the shadow of night into the morning, and maketh the day dark with night: that calleth forth the waters of the sea, and poureth them out upon the face of the earth: The LORD is his name.

Revelation 1:16 And he had in his right hand seven stars: and out of his mouth went a sharp two edged sword: and his countenance was as the sun shineth in his strength.

Revelation 1:20 The mystery of the seven stars which thou sawest in my right hand, and the seven golden candlesticks. The seven stars are the angels of the seven churches: and the seven candlesticks which thou sawest are the seven churches.

Revelation 2:1 Unto the angel of the church of Ephesus write; These things saith he that holdeth the seven stars in his right hand, who walketh in the midst of the seven golden candlesticks.

Revelation 3:1 And unto the angel of the church in Sardis write; These things saith he that hath the seven Spirits of God, and the seven stars; I know thy works, that thou hast a name that thou livest, and art dead.

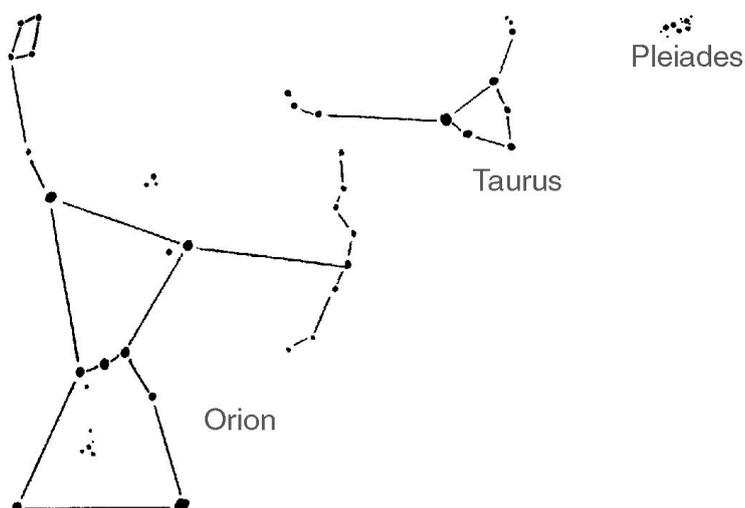
Job 38:31 Canst thou bind the sweet influences of Pleiades, or loose the bands of Orion?

When the Pleiades on the shoulder of Taurus, rise in the east just before dawn in spring, they bring the pleasantnesses of the Spring season which cannot be stopped or bound by man.

In a spiritual sense, this has been related to the effects of a powerful and efficacious grace, the influences of which are irresistible, and cause a springtime in the souls of men, where it was before winter, coldness, and hardness, but now mild and pleasant.

When Orion appears in the winter months, he brings wind, rain, snow, and frost, binding the earth so that seeds cannot grow.

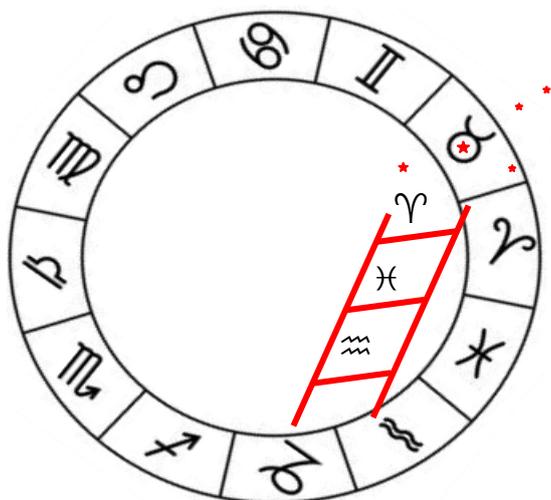
The bands attributed to Orion are strong and it is not within the power of men to loose them or change the season.



The Ladder of Three Rungs

The symbolism of the ladder with three principal rungs, as depicted on the first tracing board, is also said to have an astronomical allusion.

As the reborn Sun rises to the Vernal Equinox and towards the seven stars, to encounter the “sweet influences of the Pleiades” in ♉ Taurus, he climbs successively through the winter signs ♋ Aquarius, ♊ Pisces and reaches the Vernal Equinox in ♈ Aries.

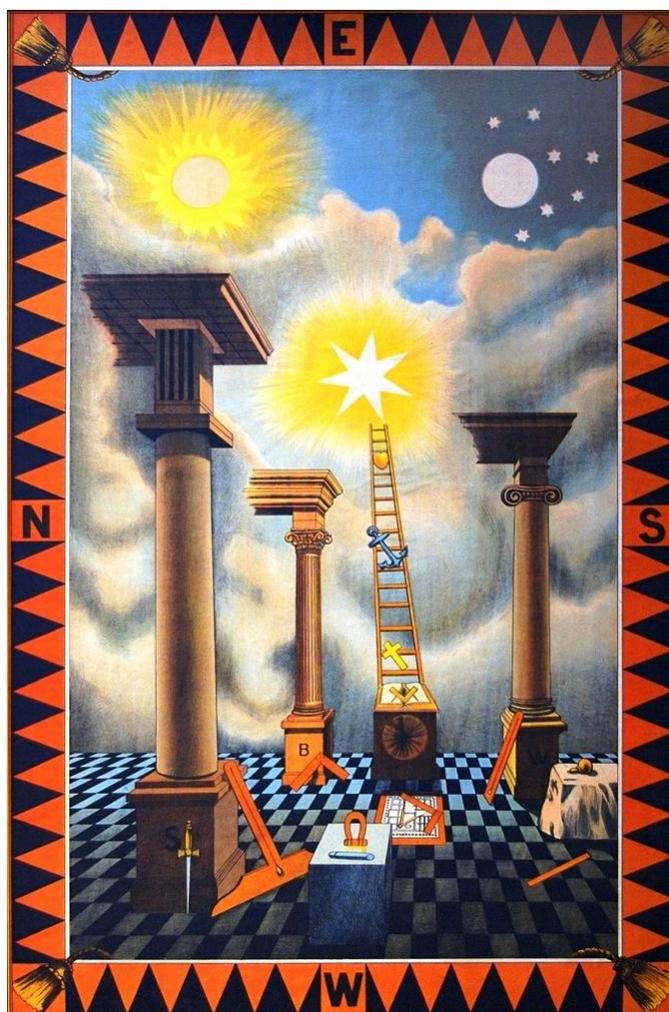


These three signs are emblematically represented by the three principal rungs of the ladder.

That is the scientific allegory. The moral allegory is explained by Robert Hewitt Brown as follows;

*“When the Sun has reached his lowest southern declination, and begins to ascend towards the Vernal Equinox, we have nothing but **Faith** in the goodness of God and the immutability of the laws of nature to sustain our belief that the Sun will once more “unlock the golden gates of spring”; but when the Sun enters Pisces, and ascend to the second round of the ladder, **Hope** is added to our faith, for the Sun is seen already to have climbed up two thirds of the distance required to reach the Vernal Equinox; and when at last, on the 21st of March, he mounts the third round of the ladder and enters Aries, the “sweet influences of the Pleiades” are once more felt, while beneath the warm rays of the Vernal Sun the snows dissolve, and the Earth begins again to put on her beautiful attire.*

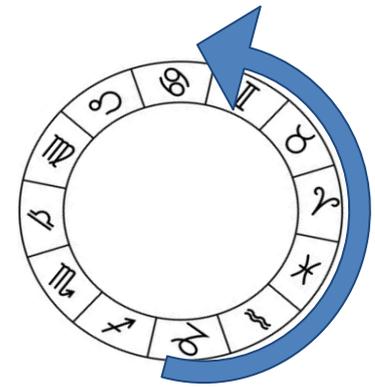
*The third and last round of the zodiacal ladder is therefore emblematic of **Charity**, or that divine love and benevolence which each year cause the springtime to come in due season.*



*So ought we all to have **Faith** in Deity, **Hope** in a blessed immortality, and **Charity** to all mankind.”*

The Ladder of Seven Rungs

When we observe the passage of the Sun from its lowest to its highest, from the Tropic of Capricorn to the Tropic of Cancer, we see that it starts in ♐ Capricornus and passes through ♒ Aquarius, ♓ Pisces, ♈ Aries, ♉ Taurus, and ♊ Gemini, until it finally reaches its full strength in ♋ Cancer.



In ancient stellar religions, these seven signs were the symbols of the seven ascending steps of the Sun.

This ancient allegory is often depicted as the Ladder of the Mysteries, a ladder of seven rungs, sometimes shown with the Sun at the top.

In many Lodges around the world, a ladder of seven rungs is also used to explain the Seven Liberal Arts.



These seven signs were also associated with the seven classical planets and in Alchemy the ascent through the seven Spheres.

The Winding Stairs

Over the centuries the number of stairs in the winding staircase of the Second Degree have been pictured in different ways. The earliest of the allegories used 5 or 7 stairs as Mackey says:

“Tracing boards of the 17th century have been found in which only 5 steps are delineated, and others in which they amount to 7. The Prestonian lectures used in the 18th century numbered them at 36, being a series of 3, 5, 7, 9, and 11. The Hemming lectures adopted at the Union of the Grand Lodges in England struck out the 11. In the US the number was still further reduced to 15, divided into three series of 3, 5, and 7.”

Using the old depiction of 3, 5, and 7 steps we find the following astronomical and agricultural allegory:

As the Sun passes from the Vernal Equinox in Aries ♈ to the Autumnal Equinox in Libra ♎, it travels through seven signs. The three vernal signs of Aries, Taurus, and Gemini, during which the ploughing and planting are done, are emblematical of the EA degree.

Add to these three, the two signs of summer, Cancer and Leo, during which the growing grain needs care and protection, which are emblematical of the FC degree. The ear of corn near the flow of water.

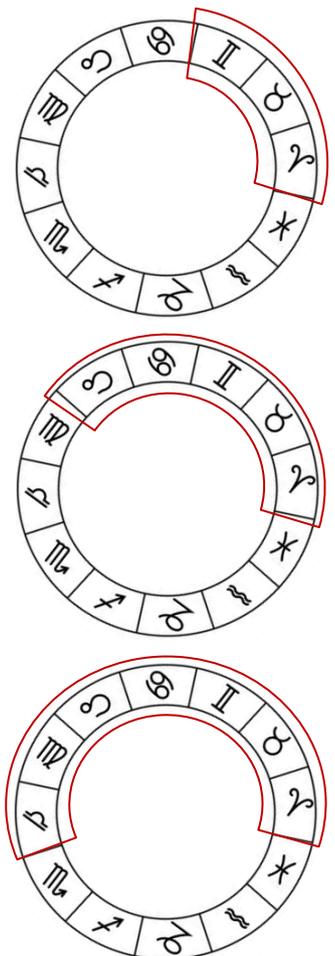
Finally add the two signs of Virgo and Libra, the end of summer and the start of autumn to make seven steps. This is the time when the harvest must be gathered and stored away for the harsh winter months to come, which are emblematical of the MM degree.

The diligent worker who follows the winding journey of the zodiac from spring to autumn, will find at the end of his toil, the wages he deserves, namely the Corn, Wine and Oil. The solar bounty and fruits of his labours. These seven signs then may be seen as three periods all taken from the most important point of the year, the Vernal Equinox.

3. First, the three signs of ploughing and planting. ♈ ♉ ♊
5. Second, add then the two signs of care and protection making five signs. ☉ ♌
7. Third, add the last two signs of harvest and storage to make a total of seven signs. ♍ ♎

There we have the 3, 5, and 7 steps. The legend of the winding stairs further informs us that they went between the two pillars, as can be seen on most versions of the second tracing board.

According to Dr Oliver, the Equinoxes are called pillars because the great semicircle of the heavens seems to rest on them. Thus explained, the legend of the winding stairs of 3, 5, and 7 steps, leading to a place where the wages of corn, wine, and oil are paid to the faithful labourer provide us with an excellent allegory, which simultaneously provides us with scientific facts regarding astronomical movements, and sublime moral truths.



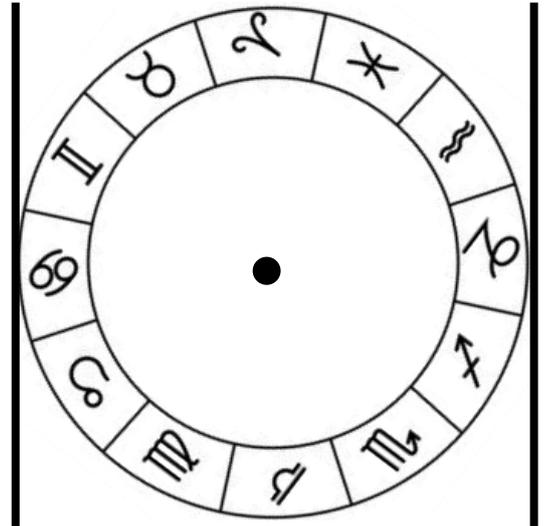
The Circumpunct or Point Within a Circle

In all regular, well formed and constituted Lodges there is a point within a circle bounded between North and South by two grand parallel lines. In going around the circle we must we must necessarily touch on both these parallel lines.

Dr. Oliver in his Dictionary⁷ says this;

“The symbol of a point within a circle has been invested with an astronomical reference. Thus it is said that the point in the circle represents the Supreme Being, the circle indicates the annual circuit of the Sun, and the parallel lines mark out the solstices, within which that circuit is limited.”

They deduce from this hypothesis this corollary: That the Mason by subjecting himself to due bounds, in imitation of that glorious luminary, will not wander from the path of duty.”

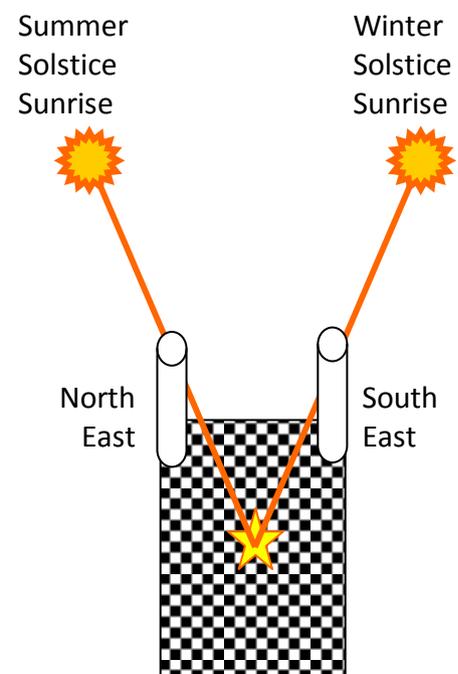


Dr Mackey in his encyclopaedia agrees with Dr Oliver’s statement and states that the circle represents the ecliptic, the path of the Sun as seen from Earth

The parallel lines are the tropics of Cancer and Capricorn, pointing out the Summer and Winter Solstices. While the Sun stays circumscribed by the two solstices, he cannot err. The temperature stays within due bounds and life on Earth continues. Should he ever go beyond these points, the Earth would become either too hot or too cold to support human life.

When we add the zodiac to the circle and match up the signs of Cancer and Capricorn with the two vertical lines, we find the constellation of Aries, indicating the Vernal Equinox in the uppermost, or Easterly position where we would expect to see it.

The two parallel lines are also taken by some to symbolise the two pillars situated in the North East and South East corners near the entrance to King Solomon’s Temple. The shadows cast by the twin pillars at the east of ancient temples were used as a very accurate calendar. It was by the means of these shadows that the priests could confirm the Summer and Winter Solstices and other important times of the year.



It would be unusual, even unique in its time, if the Temple of King Solomon was not constructed in this way. Given the level of involvement of the workers sent by the Phoenician Hiram King of Tyre it is virtually certain.

This brings us back to our first night in the North East corner with its subtle astronomical symbolism.

⁷ Reverend Dr. George Oliver, Dictionary of Symbolic Masonry, 1853

The Royal Arch of the Heavens

Royal Arch masons know that the astronomical allegories continue throughout the 18 Royal Arch Degrees.⁸

The ritual, the Tracing Board and the Jewel of the Royal Arch are all lush with Astronomical references and symbols. In addition to the familiar Craft symbols, we also encounter the Zodiac and its four Royal Stars forming the Fixed Cross represented by the Man, Lion, Ox, and Eagle.



The Correspondence between the Zodiac and the Tribes of Israel

In the Royal Arch rituals and ceremonies there are two groups of 12 that are significant; the tribes of Israel and the constellations of the zodiac. There exist a huge number of lectures, papers, and articles on the correspondence between the two groups. Basically, there seems to be two main lists of the tribes correspondences to the constellations of the zodiac.

The first, and most recent, comes from the Encyclopaedia Judaica, the 26 Volume Encyclopaedia of the Jewish people and their faith in English, first published in Jerusalem in 1971.

The second, and much earlier correspondence, comes from Masonic sources, some going back to before the formation of the first Grand Lodge in 1717, including from old Scottish Masonic records.

The Masonic correspondences seem to be formed by taking the order of tribes and the positions in which they were instructed to camp given in the 2nd Chapter of Numbers, and overlaying them in that order directly over the Zodiac. Purely Biblical and Astronomical.

The Masonic correspondences are logical, simple and much less forced than other correspondences, like that of the Encyclopaedia Judaica, or that of Samuel Liddell Macgregor Mathers of Golden Dawn fame who seems to have taken his list directly from Albert Pike.

Judaica	Masonic	Constellation
Judah	Simeon	Aries
Issachar	Reuben	Taurus
Zebulon	Zebulon	Gemini
Reuben	Issachar	Cancer
Simeon	Judah	Leo
Gad	Naphtali	Virgo
Ephraim	Asher	Libra
Manasseh	Dan	Scorpio
Benjamin	Benjamin	Sagittarius
Dan	Manasseh	Capricorn
Asher	Ephraim	Aquarius
Naphtali	Gad	Pisces

Albert Pike did seem to use the Masonic correspondences as the basis of his writings but for some reason, there are several differences in his list.

⁸ See appendix A for a list of the 18 Degrees under the Authority of the Supreme Grand Royal Arch Chapter of Queensland.

Here is an interesting piece of what Albert Pike has to say about the correspondences of the Fixed Signs in his discussion of the Scottish Rite 25th degree, the Knight of the Brazen Serpent in his book **Morals and Dogma** from 1871.

"There is no more striking proof of the universal adoration paid the stars and constellations, than the arrangement of the Hebrew camp in the Desert, and the allegory in regard to the twelve Tribes of Israel, ascribed in the Hebrew legends to Jacob. The Hebrew camp was a quadrilateral, in sixteen divisions, of which the central four were occupied by images of the four elements. The divisions at the four angles of the quadrilateral exhibited the four signs that the astrologers call fixed, and which they regard as subject to the influence of the four great Royal Stars, Regulus in Leo, Aldebaran in Taurus, Antares in Scorpio, and Fomalhaut in the mouth of Pisces Australis, on which falls the water poured out by Aquarius; of which constellations the Scorpion was represented in the Hebrew blazonry by the Celestial Vulture or Eagle."

Consider the early Masonic correspondences of the tribes and the constellations and compare them to the emblems on the banners from the Holy Royal Arch ritual of the SGRACQ in the following table.

The numbers alongside the colours are the numbers of the banners on the diagram of the layout of a Royal Arch Chapter.

Tribes	Constellation	Symbol	Creature	Season	HRA Colour	RA Banner
Simeon	Aries	♈			5 Yellow	Tower or Sword
Reuben	Taurus	♉	Ox	Spring	4 Red	Man
Zebulon	Gemini	♊			3 Purple	Ship
Issachar	Cancer	♋			2 Sky Blue	Ass
Judah	Leo	♌	Lion	Summer	1 Crimson	Lion, Crown, & Sceptre
Naphtali	Virgo	♍			12 Blue	A Hind let loose
Asher	Libra	♎			11 Purple	Cup or flourishing Tree
Dan	Scorpio	♏	Eagle	Autumn	10 Lt Green	Eagle with Serpent
Benjamin	Sagittarius	♐			9 Dk Green	Wolf
Manasseh	Capricorn	♑			8 Flesh	Vine beside a wall
Ephraim	Aquarius	♒	Man	Winter	7 Dk Green	Ox
Gad	Pisces	♓			6 White	Troop of Horsemen

The Tribes of Israel in the Wilderness

Now consider the remarkable and very specific instructions to the tribes of Israel about how they were to set up their camp in the wilderness as stated in Numbers Chapter 2.

Numbers 2:3 On the **east** side, toward the rising of the sun, those of the standard of the forces with Judah shall camp according to their armies

Numbers 2:10 On the **south** side shall be the standard of the forces with Reuben according to their armies.

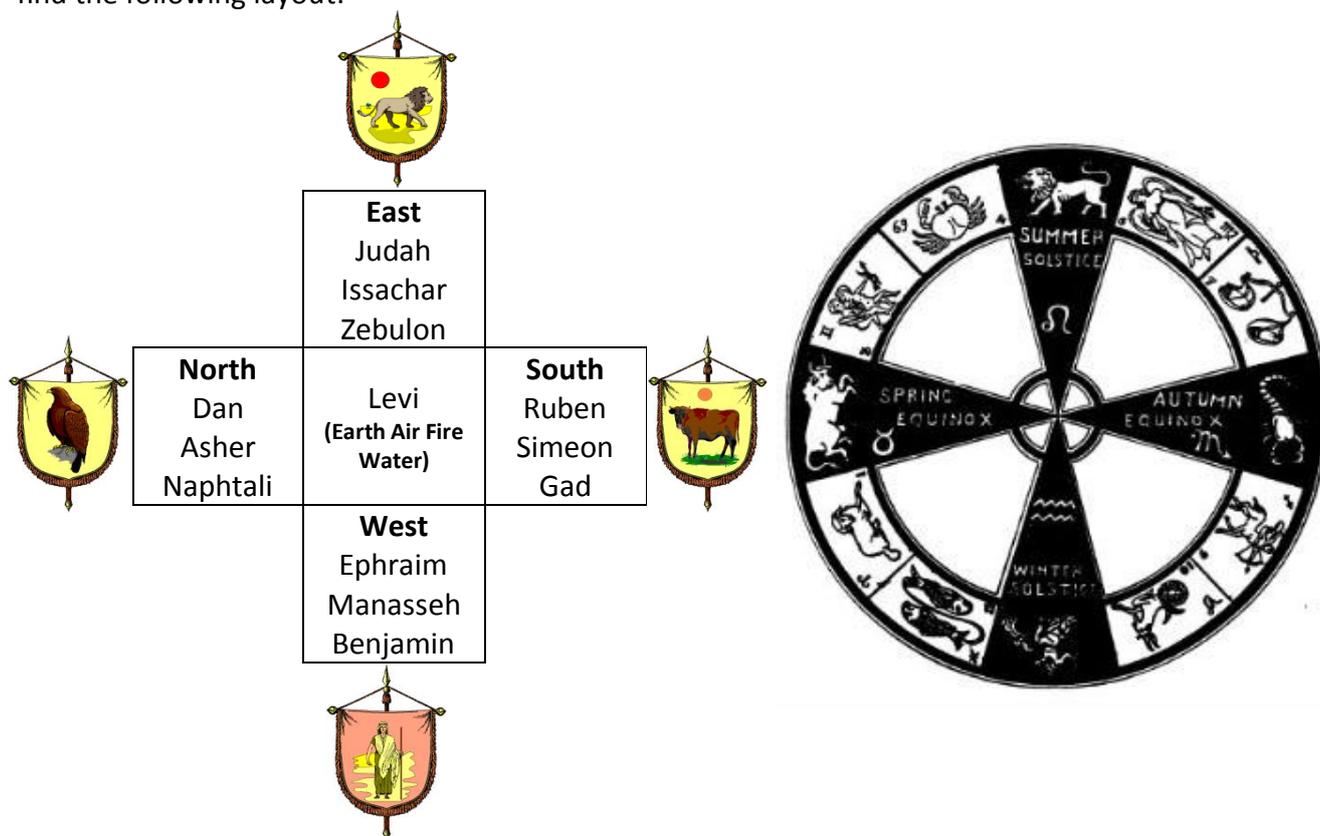
Numbers 2:18 On the **west** side shall be the standard of the forces with Ephraim according to their armies.

Numbers 2:25 The standard of the forces with Dan shall be on the **north** side according to their armies.

Numbers 2:17 And the tabernacle of meeting shall move out with the camp of the Levites in the middle of the camps.

So, according to Numbers, surrounding the camp of the priestly Levites who were excluded from fighting, there were four armies each made up of three of the tribes of Israel. Note the use of the numbers three and four yet again.

From the Biblical description and using the Masonic convention of East at the top of the picture, we find the following layout:

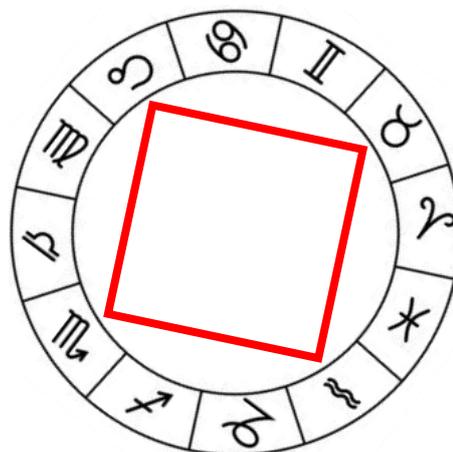
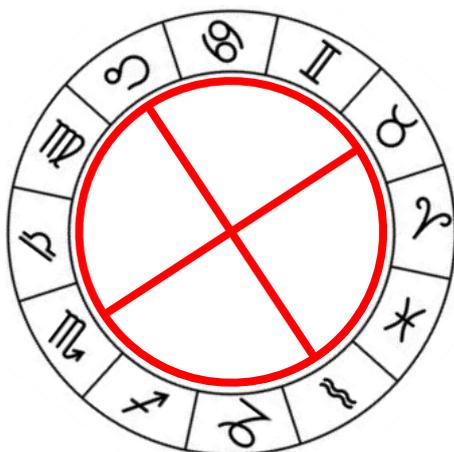
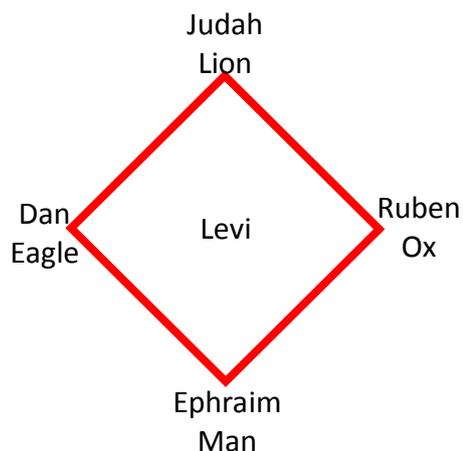
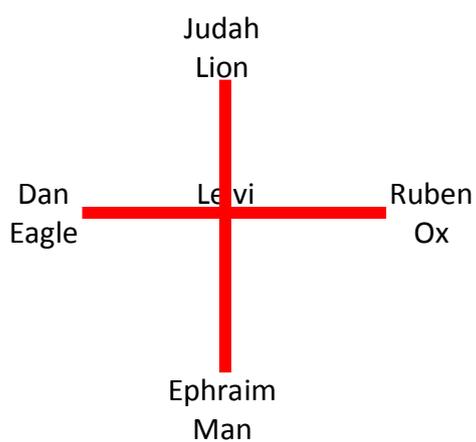


The one notable difference between the historical Masonic correspondence and the Queensland HRA ritual correspondence between tribes and constellations, is the reversal of the tribes corresponding to the Ox and the Man on the banners of the two tribes Reuben and Ephraim.

Perhaps this is deliberate and there is a symbolic reason for this exchange of two banners, but if so, it is beyond me at this time.

In both cases however, the same four tribes are clearly linked with the four fixed constellations.

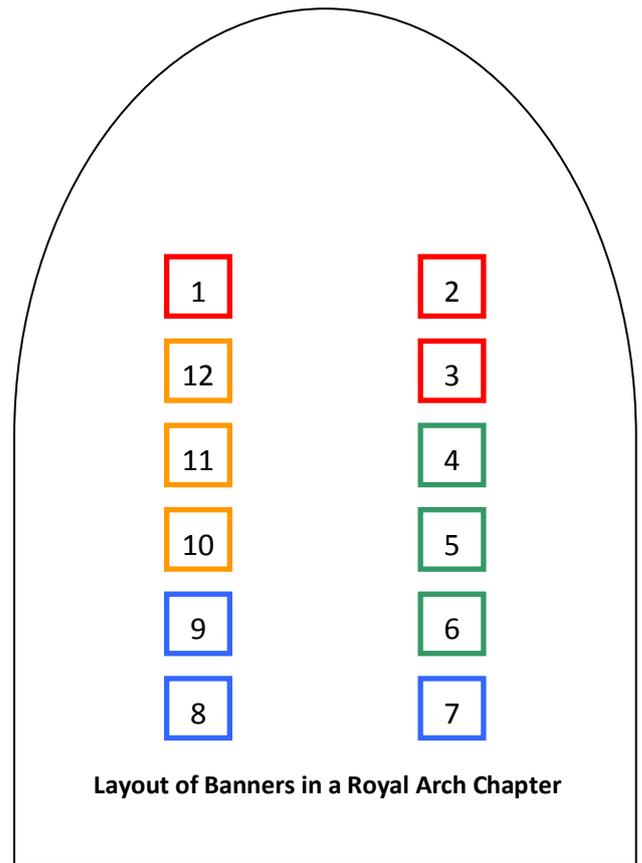
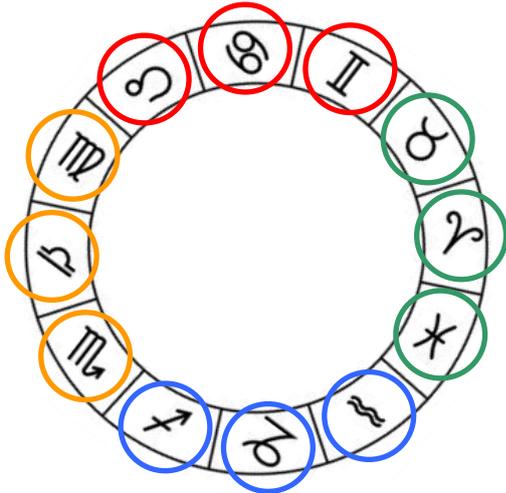
Connections between the four creatures of the fixed constellations can be made in two ways that create two different symbolic shapes; either a Cross, or a square. See below.



Tribal Banners in a Royal Arch Chapter

Observe the diagrams of the cross and the square within the zodiac on the previous page. Note that the constellation of Leo, is offset one sign anti-clockwise from the vertical.

Observe also the positioning of the tribal banners in the diagram of the layout of banners in a Royal Arch Chapter at right. You will notice that they correspond to the order of the tribes, the order of the Zodiac, and also to the offset positioning.



The first tribe, Judah or Leo, (♌) is offset to the North of East matching its position on the diagram of the zodiac. Thus we can say of the three tribes instructed in Numbers 2:3 to camp in the East, that they are;

- under the banner of the Lion,
- the tribes of Judah, Issachar and Zebulon,
- symbolic of Leo ♌ , Cancer ♋ and Gemini ♊
- numbers 1, 2, & 3 on the Chapter Banner Layout Diagram
- the three uppermost or Eastern signs on the diagram of the zodiac.

The banner of the leading tribe of the remaining three groups is likewise rotated one position to match their positioning on the zodiac diagram. The depiction of Cancer at the zenith of the zodiac comes directly from the Tracing Board and the Jewel of the Royal Arch. This offset nature of the zodiac is even more obvious on the Jewel of the Royal Arch.

The layout of the banners could not more closely resemble the zodiac unless we move banners 2 and 8 to the centre of the two columns which would be rather inconvenient in a Chapter.

It is difficult to ascribe all these correspondences to coincidence.

Rather, it does all seem to have been very deliberately done by those that constructed our rituals.

The Keystone

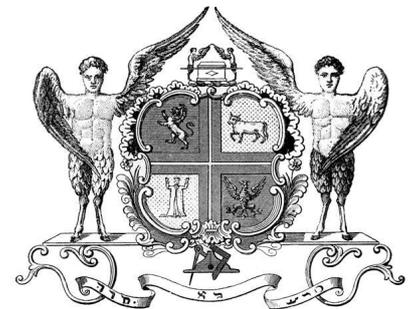
A Keystone is the most critical and strongest point of an arch when placed at its summit. The keystone we meet in the Mark Degree often has different engravings on its two sides.

On one side we see the letters HTWSSTKS, to which there have been ascribed many, many meanings. On the other side we find the point within a circle, or Circumpunct, ☉ which has two common usages outside Freemasonry.

The first use is in Alchemy where it denotes the element Gold, the second in Astronomy where it denotes the Sun. The Keystone is a symbol of the Sun at the Summer Solstice, or the summit of the Royal Arch of the Heavens.

On the Royal Arch Jewel we notice that the Keystone, the marker of the Summer Solstice, is missing. This allows the rays of the Sun, who we see exalted to the summit of the arch at the start of Cancer, at the Summer Solstice, to penetrate the arch and illuminate the double cube of the earth and the heavens, of matter and spirit.

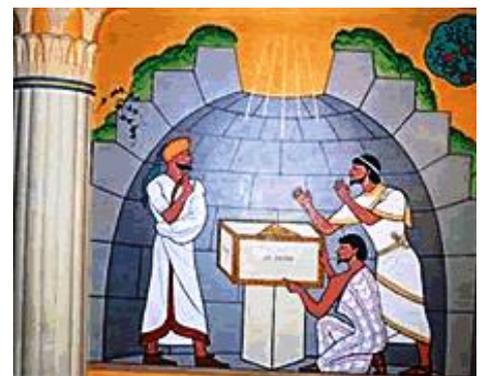
Remember the creatures either side of the Royal Arch Banner who were made up of the Man, Ox, and Eagle (no Lion)? On the Jewel, the Keystone (think Leo), the marker of the ancient Summer Solstice, when the Sun is at its strongest and produces the most light, is also lost.



The Nine Vaults

We are told that Enoch built a series of nine vaults underground, one under the other, where at the ninth or lowest vault he deposited the lost word, the light of the world.

The astronomical allegory here is quite simple. After the Vernal Equinox, the Sun passes through the three Vernal signs, then the three Summer signs, and finally the three Winter signs, and there on the 21st of December, at the lowest declination at the Winter Solstice he is lost and lies buried in the darkness.



It is here, in the depths of darkness, that according to the Masonic legend, the discovery is made by the three Sojourners, who are symbols of the zodiac signs of Aquarius, Pisces and Aries. Thereafter the lost word (read Sun) is found once more. The nine and the three, the twelve signs of the zodiac, have finally returned the Sun to his starting place. He is resurrected at the Vernal Equinox.

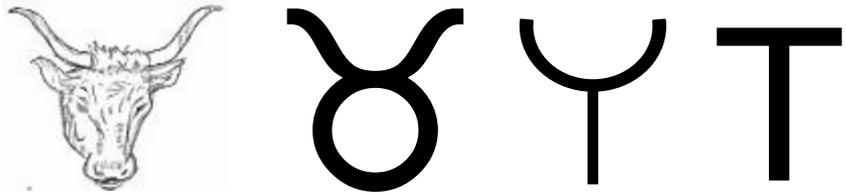
In light of what we have discovered, listen again to the following words from the Symbolic Lecture: ***The three Stones are represented by the three Principals, for as the knowledge of the secrets contained in the Vaulted Chamber could only be obtained by drawing forth the first three of a series of Stones, so a complete knowledge of this Supreme Degree can only be acquired by passing through these several offices.***

The Tau

The word Tau originated from an Egyptian Coptic word meaning Bull or cow.

The alphabetic letters in many languages started out as hieroglyphs and gradually developed into the letter we know today. The English letter

T for example comes from the Latin, Greek, Coptic, Egyptian Hieroglyph.



- The Tau is the 19th letter of the Greek alphabet.
- It was used as a symbol of the Roman God Mithras, the Greek God Attis, and the Sumerian God Tammuz.
- In Ezekiel 9 it is the mark placed on the foreheads of those who lamented their sins.
- In Hebrew it is pronounced TOV and means a marking or etching.
- It was used as a sign meaning life or resurrection.
- It is recognised as Saint Anthony's cross.
- It is the basis of the Latin word Taurus meaning Bull.

The Quadruple Tau

The Quadruple Tau is simply formed by four Taus meeting at their bases. Let us revisit for a moment that certain point within a circle bounded between North and South by two grand parallel lines. Remember how the astronomical allegory of this symbol was portrayed? The two parallel lines represented the Tropics of Cancer and Capricorn; the markers of the two Solstices.

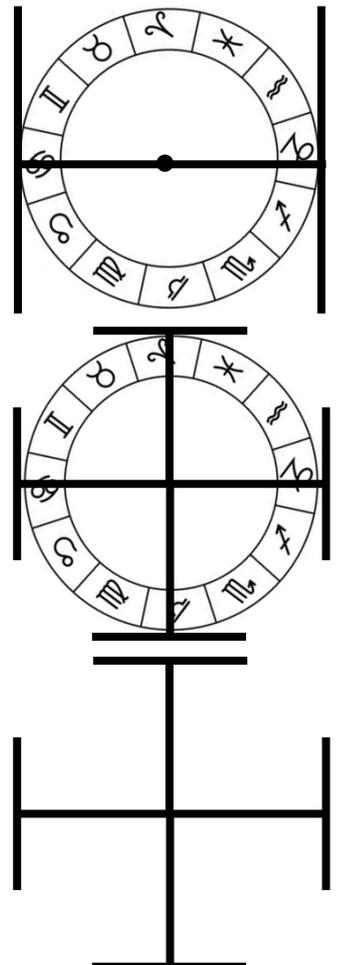
Now add the colure⁹ of the Solstices and we see the circle of the zodiac has a shape similar to the letter H superimposed upon it.

Next add similar parallel lines to mark the Equinoxes and also the Equinoctial colure and we see what has been called the quadruple Tau. This Quadruple Tau represents at once the entire universe.

The horizontal and perpendicular lines cross each other at right angles and mark the four quarters of both the celestial and terrestrial spheres. They also mark the limits of the Sun's circuit at both the Equinoxes and the Solstices.

Being composed entirely of Right Angles, Horizontals, and Perpendiculars, it is said to contain all the secrets of Freemasonry.

Just for the sake of interest, it is also the basis of the eight pointed cross.



⁹ The solstitial colure is the meridian of the celestial sphere which passes through the poles and the two solstices at Capricorn and Cancer.

The Jewel of the Royal Arch

The Jewel of the Order, as illustrated in the Book of Constitutions, is designed to represent the **Arch of the Secret Vault**. But to which Secret Vault does it refer?

The Jewel has the zodiac on both the obverse and the reverse. Being included on both sides of the jewel it is obviously important to the Degree or Order.

On the scroll at the bottom of the Jewel is the motto, "**Nil nisi calvis deest**" meaning "**Nothing but the key is wanting**" which may be taken in its literal sense. Above the scroll is the Triple Tau, the symbol of Eternal Life. On the reverse, on the scroll at the bottom of the Jewel "**Wisdom, Strength, Beauty**" support the Triple Tau within a circle.

The above statements come from the Jewel lecture. These statements help us to notice that, on both sides of the Jewel, one of the Cardinal Points of the zodiac is obscured by the scroll and the Triple Tau which sits directly over the Winter Solstice.

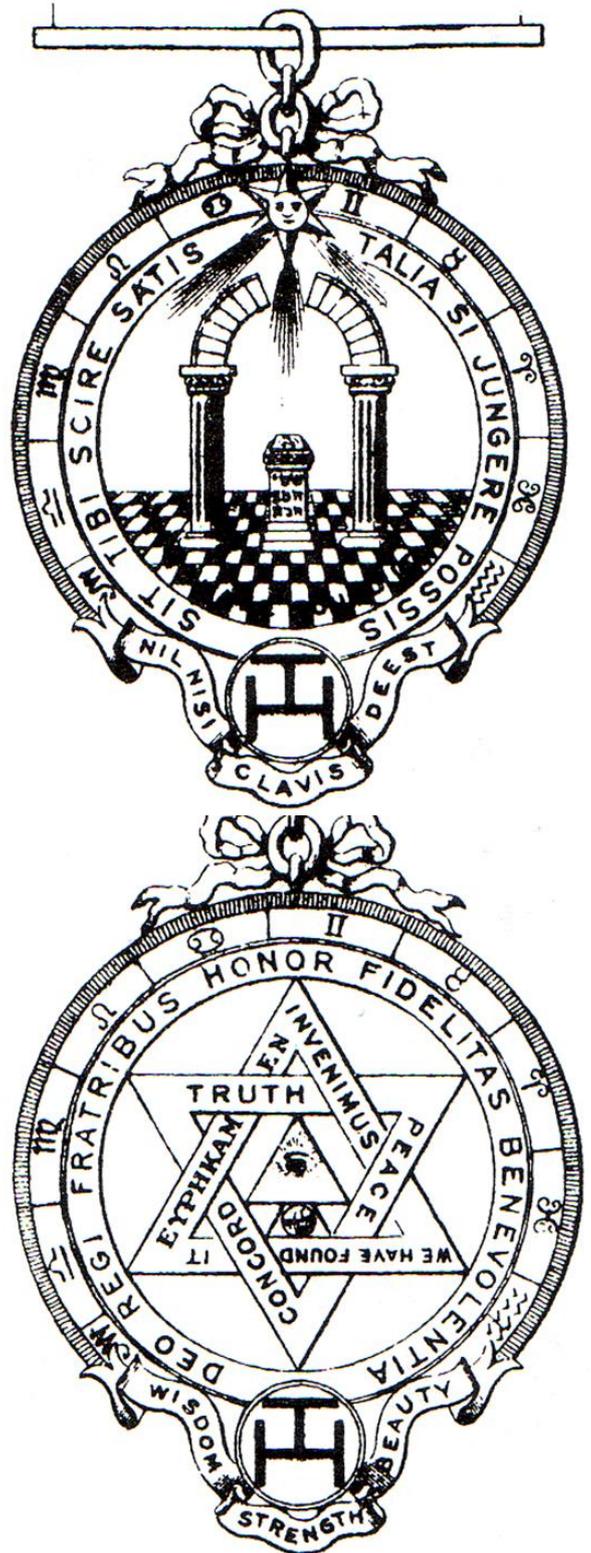
This highlights that the other three the Cardinal Points, namely the two Equinoxes and the Summer Solstice are visible. It further highlights that these three Cardinal Points are associated with Wisdom, Strength, and Beauty and the Triple Tau itself.

In an allegorical sense, the Royal Arch of the zodiac, is supported by the three pillars of the two Equinoxes and the Summer Solstice.

These allegorically equate to the three pillars of Wisdom, Strength, and Beauty. The Beauty of Spring, the Strength of Summer, and the Wisdom that must be shown in Autumn in harvesting and preparing for the lean winter.

The Jewel is reminding us that the missing key is the Wisdom, Strength, and Beauty of the Triple Tau that sits directly over and thus obscuring the Winter Solstice.

The Jewel is symbolic of the astronomical allegory of the death and resurrection of the Sun. The sun dies each year on the cross of the zodiac at the winter solstice, only to be reborn and complete the cycle again. The Triple Tau is indeed the Key to the allegory.



The Triple Tau

The Triple Tau is simply formed by three Taus meeting at their bases. We have already seen the formation of the Quadruple Tau using the astronomical markers for the solstices and equinoxes along with both of the colures.

However on the Jewel of the Royal Arch, the Winter Solstice is obscured. It is hidden by nothing less than the Triple Tau, which is itself supported by the words Wisdom, Strength, Beauty. We are told **“Nothing but the key is wanting which may be taken in its literal sense”**.

Therefore, if we take the Quadruple Tau, and remove the Winter Solstice as instructed, we are left with the Triple Tau itself which is emblematical of the seven signs of the zodiac from Spring to Autumn.

Knowledge of these secrets of the heavens in ancient times was the key to agriculture, the key survival itself. The jewel lecture informs us very clearly:

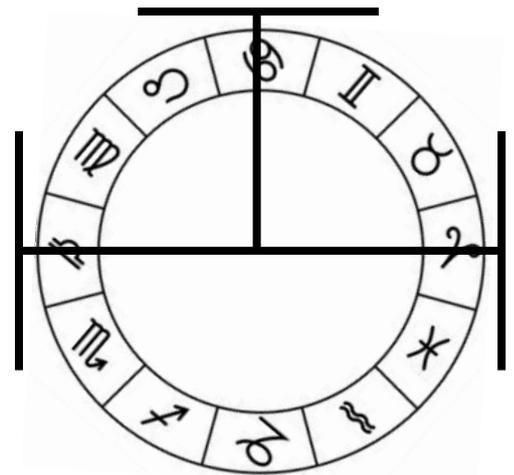
“The Globe within the Compasses is emblematic of Geometry and Astronomy; The Compasses issuing from the centre of the Sun is emblematical of Agriculture and represents the influence of that great luminary over the animal and vegetable kingdoms, admonishing us to work while it is yet day, and to be careful to perform our allotted tasks in the proper seasons, so that we may not lose the fruits of our labour.”

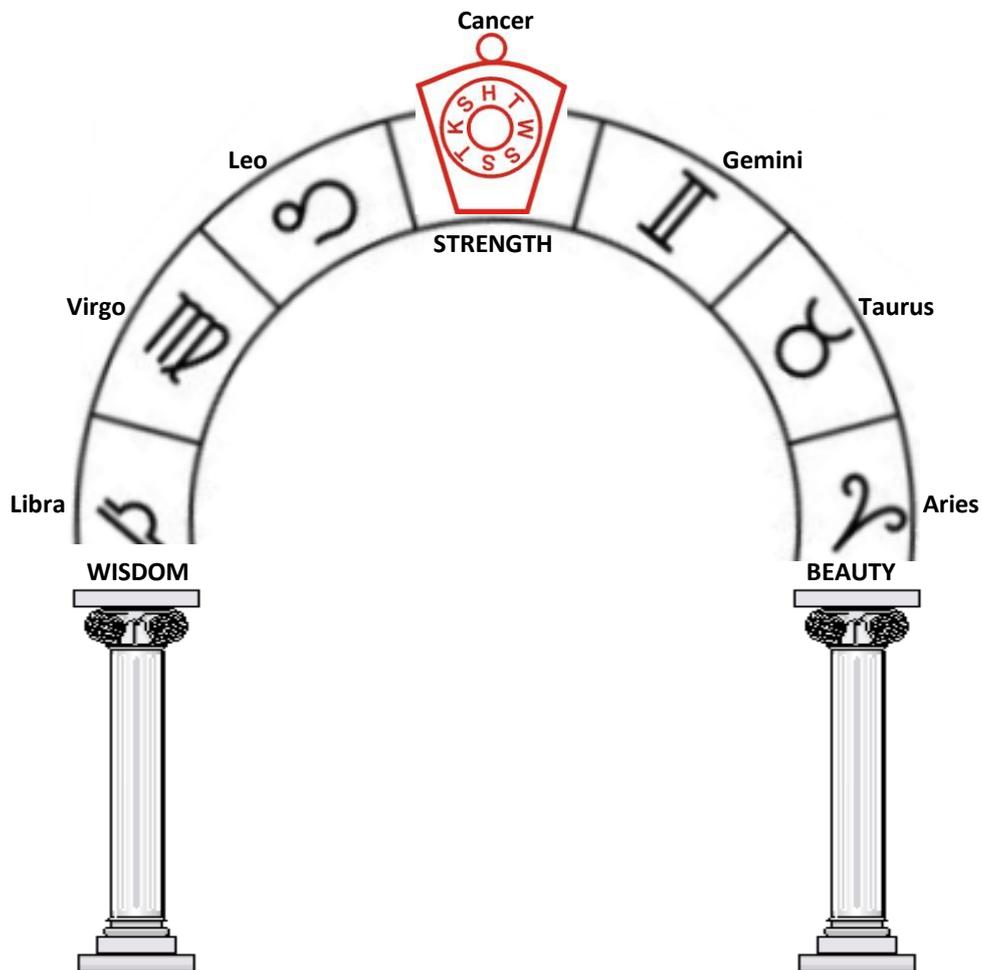
There could be no more important knowledge for the survival of mankind! The Triple Tau is the symbol of that knowledge.

In Conclusion

SIT TIBI SCIRE SATIS, TALIA SI JUNGERE POSSIS!

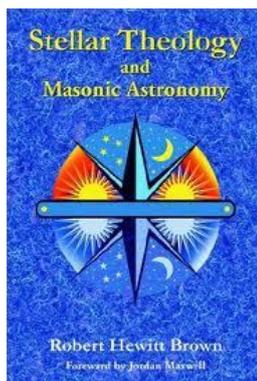
Thou knowest enough if thou canst comprehend these things.





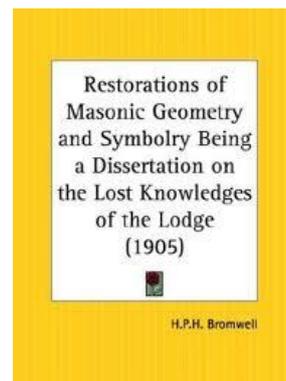
This paper has barely touched the surface of the available writings on this subject, and from the amount of material available from the late 1800 and early 1900s, our grandfathers considered this to be a highly important part of Masonic learning.

Any Brother interested in further reading on the subject could do worse than to start with the following books from which much of this paper has been extracted:



Stellar Theology and Masonic Astronomy

Robert Hewitt Brown, 1882



Restorations of Masonic Geometry and Symbolry Being a Dissertation on the Lost Knowledges of the Lodge

Henry Pelham Holmes Bromwell, 1884

Brethren, I do hope each of you found something of interest to stimulate your own thoughts about the symbolism, astrological or otherwise, in our wonderful craft, and for accompanying me on this small meandering journey through my curiosity - I thank you. David Cook, 2012

Appendix A

The Supreme Grand Royal Arch Chapter of Queensland controls within its jurisdiction the degrees of:

<ul style="list-style-type: none"> 1. Mark Master Mason 2. Worshipful Mark Master 	Lodge of Mark Master Masons
<ul style="list-style-type: none"> 3. Excellent Master Mason 	Lodge of Excellent Master Masons
<ul style="list-style-type: none"> 4. Holy Royal Arch 5. Holy Royal Arch Third Principal 6. Holy Royal Arch Second Principal 7. Holy Royal Arch First Principal 	Royal Arch Chapter
<ul style="list-style-type: none"> 8. Royal Ark Mariner 9. Worshipful Commander Noah 	Lodge of Royal Ark Mariners
<ul style="list-style-type: none"> 10. Most Excellent Master 11. Royal Master 12. Select Master 13. Super Excellent Master 14. Thrice Illustrious Master 	Cryptic Council
<ul style="list-style-type: none"> 15. Knight of the Sword 16. Knight of the East 17. Knight of the East and West 18. Most Excellent Chief 	Red Cross Council