

*Packer Pillsbury 1885*

THE

ASTRONOMY AND WORSHIP

OF THE

ANCIENTS.

BY G. VALE.

BOSTON:

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INTRODUCTION

Faint, illegible text, likely bleed-through from the reverse side of the page. The text appears to be an introduction or preface, discussing the nature of the work and its purpose. It mentions the author's intent to provide a comprehensive overview of the subject matter, covering various aspects and details. The text is mirrored across the page, indicating it was printed on both sides of the paper.

Parker Pillsbury,  
From S. W. Tibbette,  
Watick, Mass.  
August 20, 1895.

## INTRODUCTION.

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THIS, in comparison, is an age of inquiry. Protestantism has worked out its legitimate effects. It assumed the right of private judgment, and that, in its consequence, has produced an age of inquiry, which asks "What was the origin of Religion?" Dupuis, in his great work "L'Origin de tous les Cultes" (origin of all worship), has settled this inquiry, by showing that the powers of Nature were first worshipped, from which all religions have been deduced, being gradually modified by circumstances. This work of Dupuis being large, and in French, is but little known to the American and English reader. The design, then, of this work is to set before the public, in popular language, the origin of *their* different forms of religion. This pamphlet is entitled, "An Essay on the Astronomy and Worship of the Ancients," because these were necessarily connected. The powers of Nature are most magnificently displayed in astronomy, and hence the connection between this and worship.

This work has intrinsic value in unravelling mysteries, explaining ceremonies and customs, the language and faith of our popular religion, and by withdrawing the veil of ignorance on these subjects which time has woven before the eyes of modern worshippers, it exhibits the truth by discovering the simple, human origin of some things thought most sacred, but which have no merit but what is derived from mystery or ignorance.

The work is intended, too, as an introduction to the translation of Dupuis, which we have begun; having already published his first three pamphlets in one, viz.: "The Universe, God, and his Worship;" "Universality of the Worship rendered to Nature;" "Of the Animated and Intelligent Universe;" (the price of these three in one is 25 cents). We have also translated and published the last pamphlet—"Dupuis on the Revelation," the only work which gives a rational explication of this singular book,—which has puzzled the whole Christian community till now (price 30 cts.). As opportunity may occur, we shall continue the translation of the other pamphlets or works of Dupuis.

Our present work will also serve as a valuable, almost necessary introduction to Volney's Ruins, Taylor's Diègesis, and Astro-Theological Sermons of the Rev. Robt. Taylor, called the "Devil's Pulpit." These works have references to the astronomical origin of much of our popular religion, and these references can be best understood by a knowledge of our "Astronomy and Worship of the Ancients." We, therefore, commit this stereotyped edition to the favor of our friends, as the means of extending correct information, and of promoting the extension of free inquiry in the mysteries of Nature and Religion.

G. V.

ESSAY  
ON THE  
ASTRONOMY AND WORSHIP  
OF THE  
ANCIENTS.

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CHAPTER I.

Ancient civilization extended over a great part of Asia, a portion of Africa, and parts of Europe. The Greeks and Romans, whom we sometimes call ancients, knew less of the old civilization of Egypt, Hindoostan, Asia Minor, and other eastern provinces, extending even to China, than we do; for we have learned nothing from them on these subjects; while our modern researches are every day revealing the progress of knowledge in the ancient world. There are marks of a high civilization both in Egypt, Hindoostan, and in Asia Minor, at a period beyond our means of calculation, while we have clear evidence of the existence of such a state of civilization five thousand years ago, and as it was then *established* it must have been in progress centuries before, perhaps thousands of years.

From the various remains which have been found, we can sometimes trace an advance of knowledge among the ancients, and then a retrograde motion, and again an advance; and we clearly track the remains of the most ancient institutions to modern customs, several of which we shall point out.

The ancients worshipped the powers of nature either direct, or as leading to a superior, the presumed Governor of the Universe. They knew nothing but nature, and as

inferences they might draw from it: but as there is in nature something beyond the powers of man, they worshipped it in its various forms, as powers direct, or as representing unseen powers who directed the various natural operations.

The most prominent features of nature of course became the most prominent objects of worship, hence the sun, the moon and the stars were such objects of worship, and every priest, for they had priests, became an observer of the heavens, and these made some of the finest discoveries and observed the most delicate motions in our system, which we acknowledge as correct, and use at the present time. Of course their astronomy was apparent in the first instance, that is, the Earth was considered as the centre of the Universe, and all the apparent motions of Sun, Moon and Stars considered as real. That which gave the greatest trouble to these early priests and students, were the Planets, ranging from Mercury to Saturn; they did not at first understand their character, and this is one of the subjects on which they *advanced* in knowledge, and with it changed their religious opinions.

The Planets have a strange apparent motion among the Stars;\* they steadily advance in one direction, nearly in that of the Sun, then they become stationary, and afterwards retrograde, but not exactly on the same line. This apparent motion may be thus illustrated: let a boy run round a ring or oval, and let an observer stand so far off as not to perceive the circle, the boy will appear to be going backwards and forwards: this is the case with Venus and Mercury as seen from the Earth; their orbits are not seen, and the Planets appear to go backwards and forwards: the exterior Planets do the same as seen from the Earth in the different parts of its orbit. The ancients gave the name Planets to these bodies, which means *wandering stars*: their physical character was not at first known, they were not presumed to be inhabited bodies

\* See Notes, figure fourth.

of the character of the Earth, or as large; and till they were aware of the cause of their apparent motion, they could not account for it, nor could they calculate the places of the planets. These performed therefore a very inferior part in the Astronomy of the most ancient people; nor did they give them a very dignified position in their theology; they were called *Messengers of God*; and this suited the irregularity of their apparent motion.

The Sun was worshipped as God, direct; or as the image of God; and this under various names in different countries, commonly under that of Osiris, but Orus, Apollo and Bacchus were common. From the worship of the Sun came the worship of Fire, as the representative of the Sun, and still practised in parts of Persia and China; from fire came the ancient obelisks, in imitation of Flame and Light, and the various expressions of Light, as indicative of knowledge and Deity; a natural symbol continued to our time; from the ancient obelisks in connection with the temples of religion, came our pointed steeples ascending into heaven like flame.

The Moon was worshipped chiefly under the name of Isis, and represented as a female, taking various names in different countries, as Ceres, Diana, the Virgin with Child and Ear of Corn, &c., but always conveying the same idea. The Sun represented the *male*, the giver of life, and cause of fruitfulness; the Moon, the female, the bearer of fruit; hence the Moon represented the Earth, and its fruitfulness, the female and the horn of plenty. The Virgin and the child represented the vigor of nature in peopling the Earth, of which perpetual virginity not destroyed by procreation, affords a poetical idea of the annual renewed vigor of youth. The same figure sculptured for the Heathen, has since served for the Virgin Mary in our Christian religion. The Heathen or ancient Virgin, forms a prominent feature among the constellations of the Stars, and in their beautiful fables and symbols, she was presumed to bring forth a son annually as the season (Christmas) came round, where the Sun awak-

ing from the death of Winter first began to rise in its orbit towards Spring : this feast of the ancients has been transferred to the Christian religion, and adapted to Jesus by the Catholic and Episcopal Church ; the Scotch, and some dissenting parties to the above Churches, refuse the application, and do not keep Christmas day. Among the ancients this fable applied to Virgo in the heavens was beautiful and chaste, it had an astronomical fact to justify the language.

The Stars were objects of worship to the ancients, and in very remote times were considered as intelligent beings in conjunction with or in opposition to the Sun, just as the Sun apparently passed through them in Summer or in Winter. To understand this and the theology depending on it we must explain the apparent annual progress of the Sun through the Stars, on which hinges most of the fables and the chief features of the theology of the ancients, and of our own, as the connection is too striking to be avoided. Besides then, the daily rising and setting of the Sun and all the Stars, (dependent on the Earth's revolution on its axis,) the Sun apparently moves about a degree a day obliquely to the Equator, from West to East, and its entire revolution through the heavens constitutes our year : this depends on a real revolution of the Earth, with an inclined axis, about the Sun ; to be explained in a note.\* But the *apparent* revolution of the Sun was at first only known to the ancients ; who properly considered the discovery of the exact track of the Sun, with all its consequences, involving that of the Seasons and Eclipses, as a great achievement in astronomy, as indeed it was : we still make use of their discoveries and even their language in our calculations, the most prominent of which are still made, and with accuracy, on the supposition that the Sun moves through the Stars annually, and that the Sun, Moon and Stars rise and set daily : this is still the language of the Nautical Almanac,

\* See figure first, Notes.

and the calculations of Eclipses and the daily phenomena are made on these assumptions, because the results are the same as if made from the real motions, and the practice is more simple.

The ancients ascertained that the Sun had a motion through the Stars in this manner: they observed that at some periods a bright star appeared before sunrise, and in the same part of the heavens with the Sun, and near it, mixing its rays with those of that luminary; by daily observation they discovered that that Star rose earlier and earlier, increasing its distance from the Sun: it would now become a mere question whether the Star really moved from the Sun, or the Sun from the Star; but as all the Stars kept their *relative* position, it became evident that the Sun moved: this being determined, it next became important to ascertain the exact track, and to facilitate this, the ancients began to map the heavens, and first that part through which the Sun passed in its annual motion; these maps were ultimately made in twelve divisions, and are yet called by their ancient names, the twelve signs of the Zodiac, each sign represents a month of thirty days, and these were again divided into three parts called *decades*. At the earliest period these signs were nearly the same in different nations, but not identical; some had but ten signs, others had different names for some of the signs; from which we draw the inference that discoveries were going on at different parts independent of each other, and at the same time that there was a connection between the civilized nations which led them to adopt nearly similar signs. Now if there was a connection then there must have been commerce, through the whole extent of Asia, and large portions of Europe and Africa. We shall afterwards see that they had but *one* religion, with different sects, and that the zeal of sects introduced missionaries, especially from the most devoted, bigotted, and bloody sects, and that from this source came the Gaulish and British Druids.

The Zodiac consists of a belt of sixteen degrees round

the heavens, embracing those clusters of stars near which the Sun passes in his apparent annual passage round the Earth, and the circle through the middle of this belt is called the Ecliptic, the exact apparent passage of the centre of the Sun, or the real annual passage of the centre of the Earth: the eight degrees on each side the Ecliptic serve to embrace most of the Stars in the constellations of the Zodiac, but especially the orbits of the Moon and ancient Planets, for these all move in nearly circular orbits within the Zodiac, one half of each orbit being South of the Ecliptic, the other North; the crossing part being called the *nodes* of the Moon or Planets, while the whole Zodiac stands oblique to the Equator, (see the cut of or Vale's Globe.)\* As all the Planets and the Moon move through the heavens in the same direction as the apparent motion of the Sun, and *nearly* in its track, you will learn the neighborhood of that track by observing the monthly course of the Moon.

We trace the existence of the Zodiac for nearly six thousand years, and we possess most magnificent astronomical remains nearly up to that period, and are the better able to give their date from the very curious fact that the whole of the Stars have an apparent slow motion the way of the signs about the poles of the Ecliptic, which in time changes the position of the constellations of the Zodiac in relation to the Sun and the Seasons,† and therefore the ancient Zodiacs give the place of the Sun in relation to the Stars, at different seasons of the year, in a different situation to what we give in our modern Zodiacs, and this affords a certain measure of time. The names given to these signs appear to have been significant; but owing to the motion noticed above, it would be difficult to preserve the application. The position of the Sun at the prominent seasons of the year, was an object of great import to the ancients at every period of their age. In fact the existence of the Seasons led to

\* Notes.

† See figure second.

the discovery of the cause of the Seasons, and this as far as it went, was science, and regarded as a great and useful discovery, on which nearly all their theology was based. This discovery engaged, too, the powers of their poets, orators and preceptors, who in the East always taught much by symbols, fables and tales. The labors of Hercules (another name for the Sun) are now known to mean the travels of the Sun through the twelve signs of the Zodiac, and this is beautifully explained by Dupuis, and illustrated by an engraving, dividing the visible heavens into twelve parts, and showing the connection between the constellations entered, or passed by the Sun in his progress, and the labors before named. The travels of Theseæ, among the Athenians, and the adventures of the Bull of Marathon, and the Bear of Erymanthe, also the poem of the Argoneutes, conquest of the Golden Fleece, and the voyage of Bacchus, all have reference to the Sun's progress through the signs of the Zodiac. In connection with poets, orators and fabulists, are prognosticators or prophets; they run one into the other: the poet becomes inspired, or inflamed, heated in imagination, and prophesies; or the prophet becomes inspired and writes poetry, or speaks mysteries.

The ancients having mapped the whole heavens, as far as the prominent Stars are concerned, and grouped them into constellations, known as the forty-eight ancient constellations, prosecuted their studies by artificial means, as globes, maps, and the ancient armillary sphere; (an instrument with the Earth in the centre, and sphere about it, like our (Vale's) Globe and Sphere, but without its practical appendages,) and aided by these and continued observation, they originated various tales and fables, purely astronomical, for the sake of engrafting on their memory the relative positions of the Stars, and their relations to the Seasons, and other natural operations. Thus a bright Star was observed to rise just before the Sun at the time when the Nile in Egypt was about to rise, this therefore was called the Dog Star, and the group about

was called *Canis Major*, and various are the fables which relate to this Star: all of which contributed to impress its importance on the people. The ancients were careful in observing what Stars rose and set with the Sun, and especially when they appeared above the horizon just before sunrise, for the Stars gave them the Seasons with more certainty than the Sun itself. Particular names were invented for such risings and settings of the Stars, and they were called *poetical*.

Again, the ancients were fond of grouping the constellations, so as to form pictures, and invented a suitable language, which language is partly preserved to our day by astrologers. Thus the East and West were called *Gates*, the Gates of Heaven; the various elevated constellations were called *Mansions*, or Houses, still used by astrologers, who say "the Sun entered such a House," &c. This is the key to the mysteries of Free Masonry, many of whose members know nothing about it; the Mansions of which they speak, are Mansions in the Sky, and their system, properly understood, is a perpetuation of the ancient religion, which took the form of secrecy when persecuted. The mysteries among the ancients are identical, and had the same origin. As the constellations admitted an infinite variety of grouping any quantity of pictures were formed, and these in the hands of poets, fabulists and story tellers, (a practice in the East,) were made an amusing and instructive use of, while the significations were known; and as these pictures returned annually and remained for some time, they were constantly revived; besides by globes, spheres and maps they could be exhibited at any season. The beautiful story of Cinderella and the slipper, is presumed by a friend of ours at Liverpool, Mr. Taylor, to have had an astronomical origin, for it is known in all countries, especially in the East, in some form or other, and it admits of a beautiful illustration. Cinderella has two sisters already princesses, or in elevated stations, by whom she is neglected; she is, however, assisted by a spiritual genius to appear at

a ball elegantly dressed, but with injunctions to quit at a special hour, on pain of being exposed in rags: in the ball she attracts all attention, but the clock strikes or is striking, and Cinderella suddenly disappears, but in such haste as to leave her slipper behind: this is seen by the prince, he pursues the fugative but in vain, for she flies before him, till at last looking back in an opposite direction he discovers a beautiful female, the slipper is applied and found to fit, and she, the Virgin, receives a crown. The presumed explanation is this. There are three female constellations, and only three, in the heavens, Cassiopeia, Andromeda, (with the prince, Perseus, near each other,) and Virgo, these are the three sisters; Virgo, the Virgin, at a distance, and more to the South than the other two, appears above the horizon, and in splendor, at one season of the year, and a particular hour of the day, but as time rolls on, she from her Southern position sets early, and as she approaches the horizon sets bodily, that is, the whole constellation at once, or rather suddenly, leaving *one foot* however above the horizon: just as the Virgin thus sets in the West, or in the language of the ancients, passes out at the Western Gate, Perseus, the prince, or that fine constellation, rises in the East, or is entering at the Eastern Gate; the prince therefore sees the foot of the Virgin, or slipper, not yet set; becomes curious on the subject to discover the owner of so beautiful a foot, or slipper, and pursues his object; but as he pursues, she flies, for she is on one side the globe and he on the other; at length, wearied with his pursuit, when at the Western edge of the horizon, and about to depart at the Western Gate himself, he turns his head, or rather looks in an opposite direction; and there in the East, or just having entered the Eastern Gate, he beholds the body of the Virgin, just risen, beautiful of course, as the fable supposes, but he only sees the body, and not the foot or slipper; was it therefore possible that the foot or slipper that he constantly saw descending in the West when he was in the East, could belong to this beautiful creature whom he now ob-

serves rising, or entering at the Eastern Gate when he is leaving at the Western? The enquiry is crowned with success; the slipper or foot fits her, and none other, and she receives the promised crown, and then, by examining the heavens, you discover the Northern Crown (a constellation) descending on the head of the Virgin. Now with this picture worked into a tale, who could forget the relative positions of the three lady constellations, with those of Perseus and the Crown, and the Season that this picture could best be seen in; and at every recurrence of the picture who could forget the story, the fable, and the moral. And in the same way were hundreds of such tales and fables mixed with their teachings, their science, their morals and their religion.

Observers of nature, without the means of modern arts, had already divided society into the learned and unlearned, priests and people, that which could not be explained in nature was attributed to an invisible power, or great spiritual being, with delegated inferior powers to lesser spiritual beings: and before philosophy could work out perfection in nature, the palpable inferences were drawn from nature as it *appeared*, and hence the doctrines of natural or physical good and evil, afterwards extended to moral good and evil, was firmly believed in, and ancient astronomy had its full share in this belief.

The Sun from Spring to Autumn, or from the time that it crossed the Equator and moving in an oblique direction towards the East, but inclining to the North till it reached twenty-three and a half degrees of North declination, (the midsummer point,) and from that to the Autumn point when it again reaches the Equator, or is about to descend to the South, the Sun, we say, during this period appears only the author of good, and as such among the ancients represented the good principle, or God, and was worshipped as before explained. But the ancients could not see the necessity of a winter, and considered that the Sun descended into the Southern hemisphere only by compulsion, and thereby bringing short days and Winter, when

the powers of nature closed ; nor could they see distinctly any thing but an annual miracle in the re-ascension of the Sun, and with it a return of the blessings of Spring, with all the developments of nature ; of Summer, with the Sun in its glory, and of Autumn, crowning nature with abundance for the benefit of man. The ancients, therefore, believed in a good and bad principle, a God and Devil, with antagonistic powers, alternately overcoming each other, and leaving the victory doubtful : a species of theology, descended even to our times. The Stars were brought into this contest, and the constellations marshalled one against the other : the Northern constellations, were made to take part with the Sun, and generally had dignified names appropriated to them, as the Lion, the Eagle, &c., while to the Southern were more generally given something of the monstrous, as the Dragon, the Whale, &c. The good God was generally called Osiris, and represented by the Sun ; the evil God was generally called Typhon and represented by darkness : but various were the names of these Gods in different nations, and many are the contests or battles between these chiefs, aided by the hosts of heaven, the innocent Stars, at one time, supposed to be intelligences. The poets, the narrators and inventors of tales and fables illustrative of nature had full scope, for knowing but little, the imagination had the greater power, and as something good was generally designed, fables readily took the place of facts. Nor was this confined to physics ; it was already the business of the learned, the poet, the fabulist, and the orator, beings always half inspired, or living in excitement. In such hands we can readily conceive that physical philosophy would receive the sublime touch of the immaterialist, and facts in physics be applied to moral, mental and spiritual purposes : and there were those who assumed that the chief use of the physical facts in nature, and afterwards even in geometry were their application to morals, mental philosophy, and spirituality, already assumed, and these applications have come down to us,

not only in their useful and elegant applications, but in their most far fetched and fanciful appliances. Thus we readily acknowledge the Sun as the emblem of knowledge, *light* and knowledge are almost synonymous terms, but the metaphysics of the middle ages had their types among the ancients, and the transcendentalist of the present day can discover in Egypt and India that he is not original; and he and the moralists can quote the divine Plato, and others far more ancient, to prove that God is every where, and that the letters of a language, the notation of figures, the forms of geometry from a point to a solid, prove, and were *intended* to prove, abstract truths in divinity as well as morals: and when these ancient remarks, the mere creatures of imagination, sometimes the most extravagant, are discovered by our moderns, they are often regarded as evidences of a hidden wisdom or superior knowledge of God and nature, known to the ancients. Indeed "their is nothing new under the Sun," in form or fancy, and scarcely in facts, for many of our modern discoveries, and even arts, were known to the ancients. They had their trinities, their incarnations, (or God made flesh,) their Holy Virgins and Child, their mysteries and spiritualities; their religion for the vulgar, and their refinements for the initiated: our very forms even when superstitious, were their forms; and our churches were their temples. They had prayers, invocations, and hymns; the first born son of Osiris and Isis was Orus, a Saviour, represented by the constellation Orion, and by the Sun in his summer course. The very language which we use in our religious mysteries was used by the ancients in relation to the Sun; and what with us is a divine mystery was with them an elegant fable, illustrative of nature's operation, and in accordance with the basis of their religion and of ours, viz., the two great principles of physical and moral evil, and of a supreme power for good, and one nearly equal for evil, in fact God and the Devil.

We have before described the annual course of the Sun among the Stars, by which it is six months North of

the Equator, and six months South, producing Summer and Winter, the Sun representing the good God in his influence for good during the Summer; and representing him under the influence of the evil God during the Winter, and in contest for the mastery at particular points: while Orus the Sun of God, in the spirit of the Trinity, is sometimes identified with God, and at others as in aid of the Father. Feasts were kept with great religious ceremony, celebrated with games, and connected with the *mysteries* of the ancient religion, for when their religious system was well established, and their knowledge of nature increased, there became two religions, an idolatry for the vulgar, and an elegant mythology for the learned: the one worshipped the sign, but the initiated the thing signified. But the visible religion of a country is always the popular one, and that is invariably a superstition, sometimes run into bigotry, and frequently into gross extravagances, often cruel, especially on the devotee. The Hindoos now afford a sample of the ancient religion; while the history of the various sects of Christianity show that modern superstition can nearly equal any thing in self affliction, and can much exceed the ancients in the spirit of persecution, for though there are cases of bigotry, yet that is not the characteristic of the ancient worship, while it is characteristic of every Christian church in *power*.

The great feasts of the ancients, kept in the most splendid manner by religious ceremonies, were the days on which the Sun crossed the Equator, or those on which he obtained the greatest declination, or was farthest from the Equator; and these days represented the Seasons of the year, and are yet more or less kept by us; the relics on this subject are abundant and various, and have been preserved not by design but accident, by very different parties; by men of science in astronomy, by men of pretension in astrology (which had its origin among the ancients, and is continued nearly in its purity to our time;) the church adopted the temples, altars, statuary, paintings,

ceremonies, garments, creeds, and much of the language of the ancient church, and making them sacred, has carefully preserved them; and the modern rage for building antiquities is likely to perpetuate them. Thus in New York, we have a cathedral after an ancient model, and in one of the windows we have Matthew, Mark, Luke and John in approved ancient style, and accompanied as formerly with the ancient signs of the Seasons, the Bull, the Lion, the Eagle, and the Man, or Water Carrier. Now these were the signs in which the Sun was at the Spring, Summer, Autumn and Winter, leaving the impression that Matthew, Mark, Luke and John were mere emblems. The Sun is now in a very different part of the heavens in these Seasons to what it was; this is occasioned by an apparent slow forward motion of *all* the stars round the *poles of the Ecliptic*, before referred to and explained in the precession of the Equinox, (see notes): and this actual position of the Sun, at the Spring, Summer, &c., affords us the best evidence of time, and by this we know that astronomy was understood, in great repute, and identified with the worship of the ancients *five* thousand years ago, as before remarked, and leaving us to infer that it had taken a great while more to bring it to the perfection that it was then in. The approaches to one of the most ancient temples in Egypt, is made through an avenue of at least half a mile, with sphinks, (figures half lion half female,) the whole of the distance; these figures are of stone, well carved; the avenue leads to a temple, or rather series of temples, for the first, magnificent in size, is but the vestibule to others: in fact we have nothing in size or apparent grandeur in modern times equal to these ancient buildings, which appear to be measured not by feet but furlongs. The French galloped cavalry round one of these temples, and judged of the distance and size by the time occupied. Now in connection with this advance of the Stars about the poles of the Ecliptic, or falling back of the Sun in relation to his place at the Seasons, is the explanation of these sphinks,

come down to us as ornaments at our doors; the same subject affords the explanation of the Lion at the door and at fountains; the same subject will explain the worship of the Bull (Apis) in Egypt, and the reverence of the Cow in India: it will explain the Free Masons' Arms whose pannels display the Bull, the Lion, the Man, and the Eagle; it will explain the ornaments about the pillars in the temple of Solomon, which were also adorned by the cherubim, a compound animal consisting of the Bull, the Lion, the Man, and the Eagle; and it will explain the paintings on the windows in the New York Cathedral, which connect Matthew, Mark, Luke and John with the ancient signs of the Seasons, the same Bull, the Lion, the Man, and the Eagle.

To explain this subject properly, we must introduce some preliminary matter, as necessary to the explanation, to which we shall then return.

The Sun formerly crossed the Equator near Aldeberan in the Bull's eye as marked on a correct celestial globe, it was then Spring: it obtained its greatest elevation, or farthest distance North of the Equator, at midsummer, when the Sun was near Regulus, the heart of the Lion; and it was in the sign Scorpion in the Autumn when it recrossed the Equator; and at midwinter, when the Sun obtained its greatest southern declination it was in Aquarius or the Water Carrier; and these were the ancient signs which marked the Seasons, and gave rise to the greatest number of painted Zodiacs, or tracks of the Sun where these signs are displayed, and by the astrologers are brought down to the present time: to this we are indebted to their ignorance, or to their necessity of following the example at first set; they perhaps do not know why the Scorpion was changed to the Eagle, and if they did they would perceive that their system altered would destroy all previous prognostications, and throw doubt on their own. The alteration of the Scorpion to the Eagle as a sign, generally adopted, is a curious fact connected with the science of ancient astronomy and the worship

of the ancients, it is also honorable to the Jews, and may with propriety be explained here, as it is to our purpose. Owing to the forward motion of the Stars on the line of the Ecliptic, or about the poles of the Ecliptic, and the consequent apparent backward motion of the Sun in relation to the Seasons, that is, the Sun does not cross the Equinoctial of the heavens in the same place year after year, but it (the Sun) falls back a little, and this is what is called the *precession* of the Equinox, for when the Sun is on the Equator, or in that part of the heavens over the Equator of the Earth, when passing the Line to the North it is Spring to us. Now this happens before the Sun has completed its circle round the heavens, the Sun falling back a little, (about fifty-two seconds of a degree in a year,) arising from the Stars going forward as described, for this is really the approximate cause of the Stars going forward; and this gives a different place for the Sun in relation to the Stars every year, but so little as scarcely to be observed from year to year; at first, therefore, it was not known or noticed: the Sun now crosses the Equator when it is in the constellation Pisces, the Fishes, but this point is commonly called the first point in Aries, (explained in the notes,) consequently by knowing where the Sun was in Spring at any time, we can tell how long that is from the present time: when, therefore, the Sun was in Taurus, the Bull, and near Aldeberan at Spring, this gives nearly five thousand years ago; and that appears to be the golden age of the ancients, for we have more magnificent remains representing this period than any other, with the exception of the great Egyptian temple with an avenue of sphinks, before mentioned. Now when the Sun was in Taurus, the Bull, in Spring, it was in Leo, the Lion, at midsummer, and in Scorpio, the Scorpion, in Autumn, and in Aquarius, the Water Carrier or Man, in Winter, and these signs run through the middle of the ancient Zodiacs, and were received by all nations as emblems, and feasts were kept on the days when the Sun entered these signs, as before explained. It was

also remarked that in naming the constellations, those to the South were made to represent monsters, generally in accordance with the religious notion that the evil God influenced the Sun in Winter, and hence in Autumn when the Sun was being drawn to the South of the Equator to begin his Winter course the constellation was called Scorpio (Scorpion.)

We have before remarked that all the religions of the Earth had the same basis in ancient times, viz., the worship of nature; but that different sects existed as with us, and that one religion was invariably drawn from another, either as a reform or as an extension of faith or devotedness. When the Jews, under Moses, broke off from the heathen, it appears a reform, and the name Jew, meaning *learned*, has made some persons think they were not a distinct nation but a *learned sect*; indeed we have always viewed the efforts of Moses as an attempt to teach the mysteries of the learned to the common people. The Jews had twelve tribes, and, on their own authority, each tribe had a banner, and when they lived in tents these banners were displayed, and these were the twelve signs of the Zodiac. Judah, you remember, was the Lion, and Dan was the Scorpion; but the tribe of Dan rejected this sign, because of the name and its signification; it was therefore changed into the Eagle, not that the sign Scorpio received a different name, but that the tribe Dan was allowed to take the sign of another constellation; the reason of the selection appears to have been this. The ancients drew pictures, and made fables or tales from the aspect of the Stars at particular times, and this aspect of the Bull, the Lion, the Scorpion, and the Man, was the most famous, as representing the Seasons and connected with their religious rites; the picture is thus obtained; get a celestial globe or an armillary sphere, of which the ancients and the Jews knew the use, set this to the latitude of Asia Minor, the horizon will then divide the heavens into the visible and invisible to the Jews; then bring the Lion to the upper part, or over

head, and the Bull will be found on the Eastern part of the horizon, and the Scorpion on the Western, and the *Man* will be found at the bottom or in the Nadar: this then is the favorite picture of the ancients, but by examining the globe in the situation described, it will be found that when the *Scorpion* is on the horizon, that the *Eagle* is also on the western horizon, although in a very different part of the heavens abstractly considered. The tribe of Dan, therefore, rejected the Scorpion from its signification, and selected the Eagle a more noble emblem in the same picture. And this change was adopted by the learned ancient world, perhaps because they had altered their theological notions about the power of the evil God in influencing the Sun for bad, and hence we discover a progress of man in religion, as he advanced in science.

We now proceed to explain the *sphinks*. We have before shown that the Sun is now in the constellation Pisces in Spring, or when the Sun passes the Equinox or is over the Equator, but that five thousand years ago it was in Torus, the Bull, and that when in Torus, the midsummer Sun was in Leo, the Lion. Now we should have remarked at that time, that the greatest feast in honor of the Sun was when it had obtained its greatest triumph or declination North of the Equator, that is, at midsummer, and in full prospect of a glorious harvest. This celebration is continued to our time by the Free Masons, who make St. John's Day (twenty-first of June) their day of the greatest ceremony: we have already said that this Order is a continuation of the heathen worship with modern innovations; it takes the place of the ancient mysteries, whose secrets they durst not trust to the common people, for it taught them that the objects of their worship and reverence were but symbols, and the heathen when persecuted by the Christians took refuge in secret societies, and bound each other by solemn oaths. The Sun is the principal emblem among the Masons; the Druidical priests, were also priests of Apollo, and

these are admitted to be among the fathers of Free Masonry. We repeat that the midsummer feasts (St. John's) were the most celebrated among the ancients, of which the Lion was the emblem because the Sun was then in that constellation, and near the large Star Regulus, the heart of the Lion; but the forward movement of the Stars about the poles of the Ecliptic existed before this period, for their movement which makes the Sun fall backwards annually, appears a law of nature, (see the explanation in the notes,) therefore the midsummer Sun anterior to this period, or between five and six thousand years ago, would be between the Lion and the next sign, and the Sun in that situation would be most celebrated, but what is the next sign but Virgo, the Virgin; the Sun then between the Lion and the Virgin was once celebrated as the greatest feast of the ancients. What then must have been the emblem but a compound figure, half Lion and half Female, the sphinks itself, for such is the figure. In order of the signs, Aries, Torus, &c., the Lion comes first, but the Sun must first have been in the Virgin, and afterwards in the Lion, as in the figure, for the Sun falls back; at any rate the gallantry of the Egyptians could but place the bust of the Female first, and the after part Lion, and with this explanation, the otherwise unmeaning figure of a sphinks, becomes an elegant ornament connected with the astronomy, the science, the religion of the ancients.

It appears, therefore, that the worship of the ancients was symbolic; for the most part based on a pure Theocracy, they looked through nature up to nature's God; but there were then, as now, philosophers who regarded all nature as God, or materialists—both agreed that the knowledge of nature was the only means of getting at the will of God. When a people have not a written language, or when that is confined to the few, symbols become the necessary means of instruction. Symbols indeed are the elements of a written language, not alphabetical, and the contractions of symbols form the hiero-

glyphics of the Egyptians and others; of this the signs of the Zodiac are beautiful illustrations. Aries the Ram ( $\varphi$ ), Taurus the Bull ( $\text{♉}$ ), and Gemini the Twins ( $\text{♊}$ ), are contractions of the entire Ram, Bull, and Twins, or two boys, and in this form they are still sometimes represented. In old almanacs you yet see the Bull, the bust of the Bull, the head of the Bull, and finally the circle for the forehead and the horns, as in the sign above; in the same way the Ram is successively reduced till only the horns remain; and so of Twins, nothing remains of the two boys or Twins but the two strokes in the sign. In a similar manner the other signs have been reduced to almost arbitrary marks. Thus are the hieroglyphics of the Egyptians formed.

To illustrate their worship, or presumed physical, intellectual and moral powers of the Supreme Being, the ancients did not confine themselves to astronomical signs, but took all nature. In this manner birds, beasts and insects became objects of reverence from the use which had been made of them as symbols; and these were worshipped by the vulgar people; but this was the superstition of the vulgar, and an inferior age growing out of the intellectual and refined mythology of a superior age; the existence of which we have an abundant evidence both in Egypt and India; for there are scientific remains which the present inhabitants and priests do not understand.

You will remember that one conqueror of Egypt drove before his invading army the sacred animals, and thus by taking advantage of the superstition of the people preserved his own soldiers and gained an easy conquest; and yet it will be found that the worship of some of the most noxious animals is based on the most enlightened principles, and by these animals as *symbols*, moral and philosophical, and especially astronomical truths were taught; thus their theology involved science as far as it was known, and the laws of nature were elegantly illustrated by symbols. One of the most curious, to illustrate our position, is the worship of the *serpent*. So important was this that

you find this symbol, after the Bull and the Lion, the most prominent, and mixed up with their statuary and architecture: and brought down to our times in our imitations of the Egyptians. Thus in the prison of New York, called the Tombs, you will find the serpent ornamenting each window. We shall reserve the explanation for the present, as it will better follow the subject we are now about to take up, viz ; the knowledge of the ancients of astronomy, and the means they possessed of obtaining it, and this necessarily leads us to a consideration of their temples and instruments used.

The ancients had a magnificent idea of the worship of God: and at one time a great objection to *houses* of worship: nature appeared to them the sphere in which God acted and the temple of nature the only one fit to be used for that purpose; but as the habitations of civilized man are local, or limited, there was a necessity of some limits. Their first temples were groves and altars. These were often formed in the shape of a cross, in the centre of which was an altar, or elevated stone on which sacrifices were made, and at an early period a *very large stone*, in addition, sometimes personified Deity; the form giving an idea of stability. This was the case we presume in the absence of sculpture, and while civilization had progressed in some parts, this rude but magnificent mode of worship was progressing in others, just as in later times, before steam and rail-roads, *fashions* do not reach the remote parts of a civilized world, till worn out where they originated. The Druids, who were but a sect of the ancient religion, continued this form of worship after India and Egypt had made other progress. The sacred groves are named in scripture in relation to the East, and were once universal. The altar was generally surrounded by stones, forming a sacred inclosure, Stonehenge are remains which will form an example, but the Druidical remains at Atbury,\* a village in England, furnish splendid remains of the whole

\* Atbury is one mile from Silbury Hill, on the road between Marl-

system. These ancient and sacred groves were very extensive, and were made to have an architectural appearance; the trunks of the trees were trimmed, made in some measure to correspond; the branches were bent over to form a roof, a complete protection from the Sun, and a little from the rain: at the entrance of the grove

borough and Bath, in England: it comprehends a Druidical grove and temple, and embraces serpent worship, thereby connecting the Druids with India and Egypt by the similarity of their worship. The magnificent dimensions of this grove and temple, furnish an explanation of the immensity of some of the ruins in India and Egypt, and show us why the largest were the oldest. God and nature were connected in ancient worship: to confine God to a house was a violence to their feelings: and the canopy of heaven afforded the first and noblest covering to their early altars; the size of their sacred groves, accorded with their feelings, and the first temples were without roofs, and in after-times the interior of the temple imitated nature as a Masonic Lodge now does. When Egypt, therefore, chose to build with stone, she imitated the magnificence of the ancient groves and altars; and her avenue of *sphinxes* had its origin in the extended groves which led to the temples and altars of the still more ancient people. The relationship between groves, temples, Druids and the inhabitants of Asia Minor, India and Egypt, will be best seen by a description of some of the features of the groves and temple at Atbury, which we take from notes collected while reading from various works on Druidical remains.

“Atbury is in the form of a serpent, embracing a *coil*: this coil includes an entire village, gardens, &c.: in it was the altar, and about it the temple, in three circles of stones, environed by an immense rampart of earth sixty feet broad, with a ditch within also sixty feet broad; the entire circumference was four thousand eight hundred feet, including twenty-two acres. The first circle of stones were twelve, in allusion to the twelve signs of the Zodiac: the next was thirty, the number of degrees in one sign: the outer circle contained a hundred, and these stones were from fifteen to seventeen feet square, and some of them weighed from fifty to seventy tons. An avenue or grove forms the neck, and Overton Temple represents the *head* of the serpent; while another most extended grove forms the tail.”

was a large cross, in shape of a **T**, in fact the Greek Tau, and derived apparently from the same source as the Greek language, in the time when the Sun crossed the Equator when in the sign Taurus: at which time the Druids keep one of their principal feasts, and with the other ancients revered the cross. There were two other forms of the cross revered by the ancients which had a different origin; the one universal, the other chiefly Egyptian; the first made like the crucifix but with the legs extended, or the letter **X**, referred to the same season as the Greek **T**, and signified the passage of the Sun over the Equator, which is made at an angle of twenty-three and a half degrees; and this gave rise to the very forms of expressions which have come down to us.

Thus the Sun in the Winter hemisphere was deemed to be under the influence of the evil God; but when he crossed the Equator, that he had got out of that influence and the good God prevailed; he was hence called the Sun of God, and as the people were then assured of a summer, a harvest, &c., for that year, he was also called the saviour, and in this capacity he sometimes took the name of Orus the eldest son of God, and is represented by Orion, the most brilliant constellation among the Stars: but he is there represented sword in hand and gaining the victory over the *evil one* by power; but the Sun of God, the Saviour, the eldest Son of God, were familiar terms among the ancients, and these in connection with the cross, or the Sun's crossing the Line or Equator at Spring: and afterwards, when by the precession of the Equinox, that is the going forward of the Stars, or the going backwards of the Sun in relation to the crossing point, when from this cause the Sun passed the Equator in the sign Aries the Ram, between two and three thousand years after it had passed the Equator in the sign Taurus, then was introduced the expression the Lamb of God, in connection with the cross. The cross in various forms was worn as an ornament among the ladies, many of which now exist and may be seen in the British Museum; and

we find it attached to the belt or girle of some of their Goddesses. (See the plates in Bailly's Ancient Astronomy, and all works on Egypt and India, having plates of the statuary of their Gods and Goddesses, taken frequently from medals existing.) The other form of a cross was the most common as an ornament, especially in Egypt. The origin of this appears to be the rising of the Nile, which brought fertility if it rose to a certain height, if it fell short of that it left barren some parts, and if it exceeded. it brought destructive floods: for information to the people posts were put up on the banks, with cross pieces thus †, the cross piece indicated the height that the water should rise, in consequence of which it obtained a reverence, it was the sign of salvation, and as such esteemed by the ancients, and worn in the bosom of the ladies, as it has since been by our Catholic and other friends.

Besides the sacred groves used for worship in the earliest times in the East, and afterwards by the Druids in the West, in connection with these were caves, made sacred as the dwellings of the priests. A sacred place is always convenient for those who pretend to superhuman knowledge, as priests have always done, of every religion.

## CHAPTER II.

Those caves, found convenient for the priests as a shelter, for study, and for any other purpose requiring secrecy, were found afterwards convenient for places of worship; and seem to have taken the place of the groves in the progress of civilization, or to have been used conjointly; but the caves for this purpose were large, and in imitation of the groves, or of nature: their sides were carved with great labor, and from some of these relics yet preserved in the East Indies and in Egypt we learn the nature of their worship, and discover their knowledge of the sciences, especially astronomy, and perceive their progress in the arts, especially in sculpture; we learn also from their sculptured Zodiacs about the times of their existence, from the position of the Sun at Spring, midsummer, &c.

In the caves for worship were inner recesses, introduced by winding, or *serpentine*, passages; in which caves the *mysteries* were performed, called the great and lesser mysteries in connection with religion, into which the initiated were instructed, after a trial of his strength of mind by exposing him to various dangers real and imaginary, and imposing on him real hardships. If he suffered all this without flinching, he was deemed worthy of being trusted with the lesser mysteries; and after an honorable servitude in these, if he wished it, he was initiated into the greater mysteries. These mysteries are now known to be our common place doctrines of religion, such as one God, and him spiritual—the existence of the soul and a future life. It was positive and negative. It taught the disciples to look *behind* the symbols and ceremonies of the popular religion, which was necessarily idolatry, and consequently the initiated were taught that the Gods of the people were *no* Gods, and their worship and ceremonies a superstition; and that there was one religion for the learned, and another for the people, a superstition. The initiated were instructed in the laws of Nature: but

the same differences existed among them as among us some imagining they understood spiritualities, others were philosophers of Nature only. There is not a *belief*, including the *Trinity*, and all the refined conceptions of the former metaphysicians, and modern transcendentalists whose conceptions were not known to the ancients.

When we remember that Socrates and Jesus were put to death for holding and teaching opinions at variance with the popular religion, we must not be surprised at the institution of mysteries, and at the trials of the initiated, and we can see in them the origin of the mysteries of Druidism and of Free Masonry, (see Fellow's Ancient Mysteries, with the various cuts and Free Masons' Arms.) The only difference is, that now these mysteries are all revealed, there is nothing to keep secret but useless ceremonies.

The origin of the Macbeth notion of Witches, besides the sanction given by Scripture, is derived from the secret worship of the Druids, after the open worship was prohibited by Christians; when fires were lighted on their hills, according to their custom, as fire worshippers; and to keep their enemies from acting as spies, masked and terrific figures, (witches,) kept watch, to frighten off intruders and to give notice of the approach of their Christian enemies. A beautiful opera is based on this supposition, is now (1848) occasionally performed by Hullah at his popular entertainments in Exeter Hall, London.

The Cave worship, having innovated the original prejudice of the ancients, introduced Temple worship, but these were still imitations of nature; the pillars are modelled, and bear the proportions of the trunks of trees with their extended bases and spreading capitals supporting the covering or roof of the corridor or piazza. The God of nature was not forgotten in the construction and fitting up of the Temples, which were in imitation of the ancient groves, and without roof as they did not like to shut in God; but about the sides were piazzas which were covered.

The Pantheon at Rome was a comparative modern specimen, but in Egypt there are splendid remains on such a magnificent scale as to place St. Paul's and St. Peter's as small in comparison. Their very porticos and approaches were themselves magnificent temples.

Besides these temples, or in conjunction with them, they had towers and steeples, for fire worship and for observations. The Tower of Babel was no doubt of this kind: and these towers as well as their temples have come down to us as models in architecture; for though we take from Greece as the most *elegant* models, it is equally clear that the Greeks borrowed from Egypt.

We have already mentioned the ancients as fire worshippers, and noticed our steeples as imitations of the ancient obelisks in imitation of flame. The transition of worship to the Sun was easy to that of fire and light. They had their sacred fire which never went out; in Persia it is still used unless crushed by Mahomedan tyranny. The Druids, afterwards extending through Germany, France, Britain and other parts, had their sacred fires on the tops of their hills on particular days; from one they could see the other for a thousand miles; and as these were kept on their feast days, in honor of the Spring and at other times, hence have arisen and still continue our *bon-fire*, (good or holy fire.)\* From whence also came trial by fire, and fire assinals.

Towers were also used as astronomical observatories, eastern ancient civilization laying chiefly about the latitude 30 degrees, and from that to 36 degrees north; the inhabitants had much warm weather; besides property in early times consisted much in cattle and flocks of sheep; their temples of worship were open to the sky, and above all, their priests were astronomers. All this contributed to their being much more addicted as a body to practical astronomy than are our priesthood. They first grouped the Stars into the signs of the Zodiac and into constel-

\* These fires, from mere custom, are still continued in the Isle of Man.

lations, and formed catalogues; not as extensive or equally accurate as in modern times, but valuable in their times, and sufficient for the use they made of them. They never intended apparently to embrace *all* the stars, but to group and define the boundaries of those that could be clustered; and in this task we see the hand of emendations judiciously applied, where groups are sometimes made within groups; thus in Taurus, the Bull, one sign of the Zodiac, and required at one time to cover a tenth or twelfth part of the belt through which the ecliptic or passage of the Sun runs, in this constellation are to be found the well defined constellations of the Pleiades and Hyadas, and so of others. The constellations embrace either a group of prominent stars, as Leo, Ursa Major, or one or more remarkable Stars with a boundary of smaller ones. The names given to these constellations, of which forty-eight only belong to the Ancients, do not appear to be derived from any one principle, as some produce a figure a little like the name, by joining the boundary stars, or connecting with lines the prominent stars, while others seem to refer to the Seasons, or have other significant types: thus in the most celebrated, the Bull, the Lion, the Scorpion and Man or Water Carrier, we recognize the Bull as referring to agriculture in Spring; the Lion to the fury or heat of the Sun at Midsummer which it then represented; the Scorpion to their Theology, which gave an evil name to the constellation in which the Sun was entering when about to leave them for dreary and unproductive Winter; and the Water Carrier to the man discharging a river in allusion to the wet season or moisture of Winter.

This grouping of the Stars was undoubtedly a good beginning for practical astronomy; and did lead to important astronomical facts. The Sun's apparent annual course through the Stars, suggested this grouping or the grouping being made, its course would soon be discovered, and in either case it would facilitate the accurate laying down of the Ecliptic on maps or globes, and the capability of

marking the Sun's place for every day in the year on them; and would and necessarily did lead to other important *facts* in apparent astronomy, from which *all* our knowledge of the real motions, sizes, distance, relations and uses of the heavenly bodies are derived.

From this grouping of the Stars and line of the Ecliptic being laid down with accuracy, the polar distance, or distance of each Star from the pole would be known; in the same way the polar distance of the Sun, or spots on the Ecliptic occupied by the Sun would be known; and by taking this distance from a quarter of a circle, (ninety degrees) the *declination*, or distance of the Sun from the Equator in the heavens would be known; also the Equinoctial in the heavens could be accurately laid down: in fact the whole heavens and all the great circles could be and were accurately mapped, and instruments were constructed in imitation of the heavens, and this was done by the Jews, and others, in an instrument called the Armillary Sphere, (see Vale's Globe and Sphere, which comprehends the old Armillary Sphere, with the moveable traveller and horizon;) thus provided, and with other instruments the ancient priests and astronomers could pursue their studies in all circumstances.

They do not appear to have possessed the nicely divided instruments which we have, nor as far as we know the telescope, though drawing inferences from what they did know, and using what instruments they had, they appear to have presumed on the existence of exterior planets, and arrived at the conclusions which in modern times have been confirmed.

They had the Quadrant, from whom indeed we derive it; not beautifully small, nor formed on the scientific principles of Hadley for the use at sea; but they had the Murale Quadrant monstrously large, and therefore capable of small divisions; with this instrument erected by national funds, without regard to expense, nearly all the valuable observations in astronomy could be, and were made; it is the base of all our mathematical instruments. This

instrument consisted of an actual quarter of a circle, with a plumb line on the point of suspension, and the arch graded, or divided into ninety parts called degrees, and corresponding to a quarter of the heavens, and fitted up with *sights*, or marks, like a rifle. When one side of the Quadrant was horizontal, the plumb line hung perpendicularly; when the sights were directed to any Star, Planet or the Sun, the plumb line hung over the arch and marked the altitude: the best Quadrants were hung on a heavy massive wall built for the purpose, and standing North and South; in this situation it could take only the meridinal altitude of the Sun, Stars, &c.: but this was the most important, it served the purpose of a transient instrument, and as such would give the polar distance of every Star within its influence, from which its declination could be obtained simply by subtraction. With this instrument the latitude of the place could be obtained, together with the size and shape of the Earth, and these at a later period were known to the ancients. By suspending such an instrument to a post with a rotatory motion, the altitude of an object could be obtained at any time. (See Notes for the figure and use of the Murale Quadrant). *Page 48 to 63.*

They had also an instrument called an Astrolope to assist in these observations, and they made maps and globes. The connection of their worship with astronomy was a stimulus, and as practical observers, they left us some valuable observations; but when they added the imagination, formed pictures in the heavens, and made fables corresponding, they introduced a beautiful mythology which by becoming sacred checked future discoveries and facts at variance with these fables: a necessary consequence of connecting science with theology.

The position of the Stars was known to the ancients: the line of the Ecliptic was marked with great accuracy: the Zodiac or belt defined which includes the orbits of the Moon and five old Planets. The ecliptic was divided into months, and the months into ten days or degrees, called

Decades; by astrologers afterwards called *Houses*. The precession of the Equinoxes, or forward movement of the Stars about the poles of the Ecliptic, causing the apparent backward movement of the Sun in relation to the seasons was known; and this delicate movements only completes its circle in about twenty-five thousand years. This discovery was made by the preservation of their observations, and from their feasts which took place when the Sun was near certain Stars at certain seasons of the year; but it was found after the lapse of some hundreds of years that the Sun, the seasons, and these Stars did not coincide; the cause was then examined and the regular forward movement of the Stars established, and the time determined, by which the *annual movement* was easily calculated, and found to be fifty-two seconds in a year: ☞ that is the Sun starting from the Equator at Spring which it crosses, at an angle of twenty-three and a half degrees to the North and East, continues its course North of the Equator during the Summer, when it recrosses the Equator in the Autumn at the same angle and passing to the South continues during the Winter, arriving in Spring at the Equator again; but it is found that it crosses the Equator each year *fifty-two* seconds of a degree short of a complete circle, or fifty-two seconds from the point of its last passage, making the Star near its former passage fifty-two seconds in advance of the Sun, and with this Star all the rest of the Stars. The Stars too are found to advance not on the line of the Equator, (and about the North and South poles) but on the line of the Ecliptic, and about the Ecliptic poles; so that the Stars shift their places in regard to the Equator, both in advance to the East called right ascension, and also to the North and South of it, called declination: so that by this motion Stars once South of the Equator are now North, and those formerly a little North are now more North, while others are approaching the Equator or passing from the North to the South of it; even the North Star is making a circle round the pole of the Ecliptic.

but Stars on the Ecliptic continue there, but move forward to the East at the rate of fifty two seconds a year: Hence by knowing where the Stars were in relation to the Sun or Seasons at any time back, we can measure that time; and this we learn from the ancient Zodiacs which give the places of the Sun, especially at their great feast days of Spring, midsummer, Autumn and midwinter; we learn this by their statuary, paintings and history. In this way we know that about five thousand years ago the Sun was near the Bull's Eye, Aldeberan, and at midsummer it was near the Lion's Heart, *Regulus*; it was in the Scorpion at the Autumn and in Aquarius in the Winter, and that from this circumstance these signs became much celebrated throughout the whole civilized world of those times, and that their Symbols have been handed down to us and are used as elegant ornaments: while in the pretended science of astrology, the very language of the ancients has been preserved. We find also remnants of this ancient mythology and astronomy in our popular religion. In our (Vale's) Globe and Sphere, which combines both the terrestrial and celestial globes, the terrestrial can be set for any place, and the whole of the Stars can be moved to where they were at any period back or to any period forward, and the various pictures of the heavens such as the ancients at any place could see according to the Season, can be exhibited with this instrument. Now this forward motion of the Stars is either real or apparent, or it is occasioned by a real or apparent backward motion of the Sun, or we must look for it in a real motion of the Earth. (See the presumed cause in the Notes.)

The extent, the accuracy and elegant manner of communicating knowledge through Symbols, and this connection with their worship or mythology, and that with their worship of nature, will be all shown by their manner of representing the combined apparent orbits of the Sun and Moon, which we propose to give, but must first introduce some preliminary remarks.

That the Earth was the centre of all the universe was the cherished opinion of the ancients for a long while, except, a few philosophers. Nor are we much before the ancients in this particular, for till Sir Isaac Newton's time, even the learned disputed that point, and in both cases, that is, with the ancients and the moderns, this belief was connected with the popular religion, it became therefore blasphemy to disturb it, and the history of astronomy in modern Europe, is the history of the church and theology in perpetual opposition to science; even in Voltaire's time he was obliged to acknowledge the truth of this erroneous theology before he could give Sir Isaac Newton's theory, which he did asserting it to be a strange anomaly: and why Sir Isaac Newton's system escaped hatred and clerical opposition in the English church and afterwards was quietly received in Europe, was because the *Principia* was written by Newton in Latin and therefore addressed to the learned alone; and because it was purely mathematical or demonstrative; and why the *Principia* is not now a common book, is, because these elementary principles no longer want a demonstration; or because they are susceptible of a popular demonstration in our own language, without the garb of learning.

The belief that the Earth is the centre of motion in the universe, is attended with less practical errors than is usually supposed, and this is one reason why it retained its position so long. In *practice* it is chiefly wrong in relation to the inferior, or planets interior to the Earth's orbit, Venus and Mercury, giving to these the strangest possible apparent motions, before described: because of these aberrations they were considered, as before expressed, messengers of the Gods, and are less noticed than the fixed stars. The ancients at one period, when they had obtained great knowledge of the Stars, were ignorant of, or could not calculate the motions of the planets; nor did they then suspect their character: but this very uncertainty, which rendered them of less use to the astronomer

and to the theologian, made them more valuable to the *astrologer*, who too often was identified with the astronomer.

The assumption that the Earth is the centre of motion to the universe affects the apparent motion of Mars, but less so than Venus or Mercury, and it affects still less Jupiter, and still less Saturn the furthest known planet to the ancients: it has no effect on the Moon for *it is* the centre of motion to it; and it has *none* on the apparent motion of the Sun and fixed Stars. To have a popular idea of this, make two dots the one to represent the Sun the other the Earth, make two circles round the Sun at a less distance from it than the Earth, now make others *including* the Earth and Sun within their circumferences to represent the apparent orbits and position of Mars, Jupiter, Saturn and the region of the fixed Stars; (see cut the fourth) and it will be at once seen that because the outer planets go round both the Sun and Earth, and their apparent places among the Stars as seen from the Earth are less affected than the interior or inferior planets: and because the earth moves round the Sun as a centre—the apparent place of the Sun among the Stars as seen from the Earth is *precisely* the same as if the Sun moved round the Earth, and because of the *immense* distance of the fixed Stars from both the Sun and Earth their relative positions are the same as seen from either: this is what is called the Stars having no parallax, for parallax is the distance between the real position of an object as seen from the centre of the Earth and as seen from any other place; and the want of parallax is what prevents our getting the exact distance of the fixed Stars. We have no *data*, or base work to begin our calculations, except the negative one of knowing how far off they would be, if they had the smallest possible parallax, or difference of situation, as seen from the Earth and Sun. For these reasons the language of apparent astronomy is still used in our scientific works; even the Nautical Almanac, and most of our practical calculations are still made on the

supposition that the Earth is the centre of motion. These remarks apply also to the daily motion of the Earth on its axis, and to the apparent rising and setting of the Sun, Stars, &c., we get our Latitude and Longitude at sea by the Sun on this supposition, and our calculations for eclipses are based on the same supposition.

The ancients, therefore, while their knowledge was chiefly confined to apparent astronomy had acquired much useful information; and we are indebted to them for their careful observations.

The ancients understood the cause of, and could calculate eclipses, not as we calculate them, (as far as we know,) nor with the same accuracy, but sufficiently so to astonish the vulgar, and as we think to lay the foundation for astrology. The cause of an eclipse is to be found in this fact, well known to the ancients, that the Moon's real passage round the Earth crosses the apparent passage of the Sun in the heavens, consequently at the crossing points called the *nodes*, the Sun, the Moon, and the Earth are in a straight line, and if the Moon be between the Sun and the Earth when in her node, she will eclipse the Sun, or interrupt his rays reaching the Earth; but if the Earth is between the Sun and Moon, when the Moon is in one of her nodes then the Earth will interrupt the Sun's rays from reaching the Moon, and as the Moon shines by borrowed light, she will be eclipsed: at every new Moon she is between the Sun and Earth, (see cut fifth), her dark side towards the Earth, and her enlightened side towards the Sun; but at full Moon, the Earth is between the Sun and Moon, for then only is all her enlightened side towards the Earth; if she happen to be in or near her node at that time she will be eclipsed; but if not, the rays of the Sun pass over or under the Earth and reach the Moon, which rays she reflects and we call it full Moon; consequently eclipses only happen at new and full Moon, and when the Moon is in or near one or other of her nodes; to calculate an eclipse we make a series of tables one showing in what part of the heavens

the Moon will be in at *every* full and new Moon; another showing where her nodes will be at those times; for her nodes shift backwards and forwards about nineteen degrees in a year; and when these coincide an eclipse will happen, total or partial according as she is in or near her nodes; the knowledge of the exact *moment* when an eclipse will happen is the effect of minute calculations made from her known motions, and the backward motion of her nodes.

We have no proof that the ancients knew the minute motions of the Moon, for she is subject to great irregularities, but there is another method of calculating eclipses much easier, depending however on a long series of careful observations, and such observations the ancients had made; they had discovered a series of cycles or periods when astronomical phenomena return; this wants only careful notifications, and the records preserved; but as these cycles are generally given in round numbers to years, days, hours, or minutes, there remains fractions to be applied by way of corrections: the ancients understood these cycles and many of their corrections. The simplest and most popular cycles are the periodical returns of new and full Moon; the Seasons and place of the Sun in the heavens at each Season; the return of Eclipses about every nineteen years, &c. The most remarkable cycle to be well ascertained is the one already referred to, that of the return of the Stars to a former position after the lapse of twenty-five thousand years, in about which time the whole Stars make an entire revolution about the poles of the ecliptic, and this cycle intimately connects modern and ancient astronomers; they find themselves in the same cycle, making and preserving observations, and carefully noticing the precession of the equinox.

The ancients measured the size of the Earth and hence they knew its shape: this is extremely simple in idea; though a great deal of learning is thrown about it: the difference of the meridinal altitude at the same moment of

time of the Sun, or any Star, planets, &c., between any two places laying North and South of each other will give it, because that difference of altitude in the heavens in degrees or parts of a degree, express the number of degrees or parts of a degree between the places on the Earth, on the principle of concentric circles, for a circle on the Earth corresponds with a circle in the heavens, and a degree on the Earth corresponds with a proportionable part in the heavens; and the measure of one degree on the Earth multiplied by three hundred and sixty will give the circumference of the Earth; the ancients knew this, and have given it to us in stadia, but we have not the elements of this measure.

In speaking of the ancients it runs over a long period, exclusive of the Greeks and Romans, who on this subject are moderns; they knew less of the Egyptians and Hindoos than we do; and of these latter we discover three periods of civilization; one of great simplicity, but of gigantic work, connected with grove and cave worship; another of more scientific knowledge, and temple worship, in which the theology is corrected by increased knowledge of astronomy; and a latter period when much of this knowledge was forgotten, and Egypt, India and other eastern parts were much in the situation they are now; known chiefly by their magnificent remains; in this situation the Greeks and Romans only knew them.

We now return to a promised subject, and endeavor to show the science of the ancients, and the elegance of their mythology in symbolic worship, in which they used all nature, which gave to their superstition in after ages and amongst the vulgar, the appearance of gross idolatory of the most stupid kind. We select the *serpent worship*, the figure of which is embodied in their architecture, to be seen at the prison commonly called the Egyptian Tombs, a fine imitation of Egyptian architecture in New York. It is to be seen too in various plates of Heathen worship, especially in the serpent, encolling a staff, the emblem of the source of life, and once the object of sym-

bolic worship as representing the creative power in Diety: but the most beautiful exhibition of the serpent as an object of worship is the combination of the two serpents forming circles, making an angle with each other of nearly five degrees nine minutes, thus,



which figure combines all the objects that were proposed to be illustrated. The apparent track of the Sun as seen from the Earth through the heavens is called the ecliptic: the real track of the Moon as seen from the Earth in her monthly course is nearly the same; but the Moon's track crosses the Sun's apparent track in two opposite parts at the small angle of five degrees nine minutes: hence in the figure above, one circle represent the ecliptic or Sun's apparent path in the heavens, the other that of the Moon's, and these combined form as you see, the bodies of two serpents, making one ring; the places of the heads and tails give the *nodes*, in either of which, if the Moon is at new or full, an eclipse happens, consequently these combined serpents give the whole theory of the Sun and Moon, the two prominent objects of worship in the Heathen mythology, under the names of Osiris and Isis; the one representing the giver of all life, whose emblem is the Sun, the other representing the Earth and its fruitfulness, whose emblem is the Moon; thus this figure of the serpents exhibits at sight, the chief science and theology of the ancients: but this is not all, the ancients connected these symbols with abstract ideas and morals, and taught

the intellectual and moral qualities of men and Gods by them. First the serpents forming one circle or ring supplied the emblem of *eternity*, which is come down to our day, and is even used in our matrimonial ceremony as the emblem of durability, and from its endless character furnishes a type for poets and orators in every country as well as a universal ornament; and if our moderns are not reminded by the sight of the ring of all that the ring was meant to convey, we should not be surprised that the vulgar part of the ancients, should forget the science and morals of the serpent and worship the symbol.

Again the *eye* of the serpent its imputed power in fascinating; its elegance of movements without feet, and tenacity of life, all are symbolic of the properties imputed to Diety, and renders it subject to spiritual, intellectual, and moral comment; and hence suitable to a refined mythology, and use as an ornament; and when we add, as the ancients did sometimes, wings to it, as a symbol of the spirit, or Holy Ghost, we still more spiritualize it. In the same way the whole tribe of animals and even insects revered by the vulgar, amongst the Egyptians and Hindoos of an inferior age, were introduced as appropriate emblems of a refined people, and afford the means of instruction, and furnished an aid to memory when books, printing and even writing (except hieroglyphic) were not invented.

In our modern religions we have little in faith, sentiment, morals, ceremonies, or even cruel superstition which the ancients had not. They had prayers and invocations, and hymns to their Divinities; they believed in one Supreme God, with inferior agents like our angels; and they believed in an evil spirit, with agents, like our devil and his imps. Each nation had an incarnation of the Deity, or adopted one or more from their neighbours; they had an eldest Son of God, born of a Virgin, (Orus) a Saviour of the World: they had their mysteries in religion, their shaven priests, and sacred virgins, nuns and nunneries, processions, temples, sacred book, oracles,

inspirations, prophecies, and miracles; pictures and statuary: some of which are known to be transferred to Christian use. A Heathen temple has become a church; a Diana, a Virgin Mary; and the Cross of the Heathen, the Cross of the Christian; they also had their sacred bells: nor is it, we believe, possible to name a creed they did not hold, or a ceremony they did not practice. They were too, divided into sects as we are; some more superstitious and self-denying than others, and hence more popular; others more philosophic, and in practice as in some measure in modern times among *respectable* churches, there was in practice one religion for the rich, another for the poor.

The distinguishing marks between the ancient and modern religions, (exclusive of the immediate times,) if there are any, is in the ancient human sacrifices, continued in some form in Hindostan, and the principle of *persecution*. The ancients were more tolerant than the moderns, for they did not hold that honest but fatal doctrine of modern sectarians, *viz.*, that there is but one *true* religion, and that each has it: and yet there were cases of intolerance among them. They made also human sacrifices. One sect was extremely zealous, *viz.*, that of Buddha, in India; from whom the Druids in the West copied; and from the sect Buddha came missionaries who instructed the natives.

Sacrifices and offerings appear to have a compound origin, that of superstition and interest. Fire worship was a natural transition from Sun worship; and in ignorance of the size of the universe and of the relative importance of the Earth, there appeared but *three* places; the Earth, Heaven above, and Hell beneath; all above the clouds was mystery and the proximate locality of God and angels: and as fire worship was common, and the smoke ascended to heaven, the conception of incense, or sweet smelling smoke or vapor ascending into Heaven, was natural, considering that Heaven was so small a distance off. The idea of offerings to the Gods of the *best*

of everything in the same way was an easy transition ; and here *priestcraft* began, for this appears the earliest mode of *paying* the priest, before the use of money, then payments had to be made in gross ; and the best of the flocks, herds, &c., was given to the Lord and *his* priests. The division was easily made, interest was mingled with superstition, and the useless entrails were made to smoke unto the Lord, while the best of the pieces were reserved for the tables of the clergy. To make this acceptable to the people a mystery was added, and smoking entrails in their various contortions were endowed with the power, interpreted by the priest, to afford intelligence of coming events, and the fate of battles and various prophecies, from these appearances, established a precedence for similar assumptions, as at present practised by the Gypsies, and other fortune tellers.

The idea of sacrifices once introduced, the most noble, presumes the greater piety, and therefore the Son of God is soon reached. In ordinary practice, enemies or those taken in war were the victims, and as most practices have an apology, we shall find this is the human infirmity which supposes that a man's or nation's enemies are also the enemies of God, and that therefore such sacrifices must be acceptable to Deity. In times of distress, personal or national calamity, the subject of sacrifices were examined, and the acknowledgment openly or tacitly made that God had been cheated with entrails when he should have had the best, or whole carcase ; that prisoners and the most unworthy had been offered instead of those most dear ; and hence at such times more noble sacrifices were required by the priests, or voluntarily given by the devotees, and mothers did not spare their children.

And lastly came self-sacrifice, still more or less, or in one way or another adhered to by every sect of every religion. In apparently the most harmless form we hear honest devotees of too little capacity to do either harm or good, and too ignorant or superstitious to enlighten

mankind, talking of *sacrificing* their lives to the service of God.

In this true spirit of sacrifice Abraham offered up his son; and Moses showed his wisdom, independent of inspiration, not only in leading his followers to worship the thing signified instead of the sign, but also in *defining* the sacrifices to be given; and in giving this the authority of Divine inspiration, he precluded human sacrifices. In the same spirit have the introducers and encouragers of Christianity adopted the fabulous sacrifice of the Son of God, as an offering once made, and superceding for the future, bloody sacrifices: and in the more philosophical interpretation of this doctrine, which is held to be the original one, it is really harmless, viz., that the presumed exertions, devotedness and resignation of Jesus, was a noble self-sacrifice, the substance of all the previous types in the sacrifice of animals.

Among the ancients the most ignorant were the most bloody, zealous and sincere in their principles: from these chiefly issued missionaries, from whence Druidism was derived as before noticed. The power of the Druids was kept up by making the initiation so difficult, that only those among the natives of the strongest minds and bodies could embrace it; and therefore the Druid priests formed an aristocracy of nature, and exerted a power which the Jesuits have since thought to establish, but in a less open way.

An investigation of the subject of ancient religions, establishes the fact of the great, if not absolute truth of the remark of Solomon, that "there is nothing new under the Sun." It is clear that all the religions of the ancients originated in the worship of the powers of nature, as superhuman, and that however numerous the sects, they all drew from the same source, but were generally derived one from the other, as our modern sects of Christians are. The Jewish religion, independent of its Divine pretension, was a reformation of a corrupted mythology; a return to first principles; an attempt to turn a whole people

from idolatry to the worship of the thing signified instead of the type or symbol; and this fact is an argument in favor of the Jews being a learned sect, as the word implies, rather than a distinct nation.

The worship of the Jews contained a great deal that was common in the mythology of the ancients; their temple was similar, and each pillar was ornamented with the figure of the Cherubim, so often named in the scriptures, and which figure was combined of the Bull, the Lion, the Scorpion (afterwards the Eagle) and the Man; the most favored astronomical picture of the ancients, and representation of the Seasons, the course of the Sun in the Ecliptic through the Signs of the Zodiac, the entire foundation of the whole mythology of the ancients. The prophecies of the Jews are clearly in poetical and figurative language, and the words prophet and poet, even in scripture, in some cases are used synonymously: these prophecies are similar to such productions among the other nations, and frequently refer to the same subjects, and have a clear astronomical interpretation; in fact they are astronomical pictures, formed by constellations, and ever changing by the apparent motions of the heavens; and when the prophet sometimes says "I saw in the heavens," &c., he literally means what he says, there is the very picture which he describes, and he is speaking in language perfectly understood by the learned of those times; and we have already seen that the Jews in separating from the rest of the world in their religion, only returned to the ancient purity of Theocracy, and separated from the vulgar idolatry of the people who were worshipping the sign instead of the thing signified. We know that the early Jews were divided into twelve tribes under the ensigns of the twelve signs of the Zodiac; and that in their encampments these ensigns were displayed; and we have already seen that the Jews preserved in their temple the Cherubim, the symbol of the principal tableau or picture in the mythology representing the Seasons; and we further learn by the Free Masons

that Solomon's temple was ornamented after the style and with the insignia of the temples of the ancients, for they have preserved these insignia, and we find them in the Free Masons' arms, and in the decorations of Free Masons' Tavern, London, and of every lodge; and these are the Sun, the Moon, the Blazing or Dog Star, the *Fire*, the Coffin (referring to the death of the Sun annually under the name of Osiris,) in fact through the Jews we get at the purity of the ancient mythology, who looked through nature to the wisdom and power which is seen in or about it.

In these beautiful tableaux or pictures we see a refined allegory, or astronomical fable which removes the grossness, approaching to blasphemy, if there be such a thing, which we adopt when we take literally for terrestrial facts which the ancients gave as astronomical visions, which have their foundations among the Stars.

Thus an astronomical Virgin, or Virgo the Virgin, can be with child annually, can bring forth a son, an annual conqueror or saviour, who runs his daily course in presence of twenty-four elders or hours, who continually testify of him; and in his annual course suffers a *death*, a resurrection—labors through the Cross or passage of the Sun over the Equator—until he obtains his full glory at midsummer, the celebrated St. John's day among the Free Masons: and all this is true in astronomy, and beautifully illustrates the mythology of the ancients, and does not shock nature by the presumption of an actual incarnation, or union of *God* with a human or terrestrial virgin.

That Christianity was a *slip* from Judaism is an historical fact, and some of its chief mysteries are derived from their prophets; its beginnings were small, and its history was not written till long after the events; nor were these writings collected and stamped with the decision of an ecclesiastical council as Divine, in their opinion, till some centuries after the events; and all that they did was to make a selection from existing writings

and determine by votes; some of which writings were doubtful to the council, and remained doubtful; the Apocalypse was of this character.

In the progress of Christianity from its great simplicity to its gorgeousness and power, it borrowed largely in the beginning from Judaism, and afterwards from the heathen; even the names of the historians of Christianity are rendered doubtful by their being associated with the signs of the Zodiac, and in our earliest cathedrals we find Matthew, Mark, Luke and John painted on the windows with the everlasting Bull, Lion, Scorpion (or Eagle,) and Man (or Water Carrier) as signs of the Seasons, conveying an idea that Matthew, Mark, Luke and John were presented to the early Christians as personifications of the Seasons.

Those who would pursue this subject further should see Bailly's Ancient Astronomy, with the plates in that work; the various accounts of Egyptian and Asiatic researches, with plates of Hindoo worship, the various accounts of Druidism, and the establishment of Free Masonry, but they should especially see Dupuis' "*Origin de tous les Cultes*," or Origin of Worship, also his Origin of the Constellations, where they will find a full confirmation of all the facts given in this work, and greater detail.

We propose publishing as a companion to this, a translation of Dupuis on the Revelations of St. John; in which he gives to that work a rationality which it never before possessed, by showing that it has an astronomical or astrological meaning, a picture of the heavens on which in the style of the ancient prophets, oracles and astrologers the writer chooses to attach denunciations.

This work will be sold separately, or in conjunction with this Essay, as a suitable introduction to the proper understanding of the other works of Dupuis, Volney, Taylor, Drummond, and others.

## APPENDIX.

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### CHAPTER ON ANCIENT MYSTERIES.

“Where there is mystery,” says Dupuis, in his admirable work on the *Origin of Worship*, “there is craft,” and this we shall find in the so celebrated mysteries of the ancients.

The celebration of these mysteries was established or sanctioned by the magistrates at a time when the religion of the ancients formed part of the state machinery, and statesmen were priests: these were intended to influence the people for good, in fact to promote morality. The means were the instruction of the people in the doctrines of a Providence, and future rewards and punishments, together with such other doctrines as contributed to carry out these; for whether true or false these doctrines were supposed to aid the magistrate, who *apparently* revered the Gods, and taught the people to obey them, through the priests as a matter of course. This referred to the *lesser mysteries*; into which devotees were solemnly initiated by various secret ceremonies.

To be initiated into the *greater mysteries* required four years standing or acquaintance with the lesser mysteries. To these the ceremonies were greater, the trials more severe, and the obligations to secrecy more sacred, because the doctrines revealed were unpopular, and might expose the parties to persecution. In these mysteries the subjects were taught the true nature of the Gods revered by the people; in fact that they were no Gods, but representatives of the presumed Author of Nature,

but serviceable in governing the people. From deferring the initiation to these greater mysteries; from making the trial severe and expensive, the initiated into these were generally of a higher order, and included the philosopher as well as the saint; the former regarding religion as a useful engine of State.

The initiated in both of these mysteries regarded themselves, and were regarded by others, as of a purer nature; the institution was in both cases *spiritual*; the devotees were similar to our members of churches who believe they have imbibed the Holy Spirit, and profess to be a holy people separated from the world.

These mysteries were celebrated externally by sports and games and public preaching, by order of the Government, to bring the people within the pale, or to create a desire to be initiated. The party becoming so were called *catachumens*, a name afterwards adopted in the Catholic church to such as were introduced into that body. The catachumen confessed his sins, promised repentance, and was taught that the doctrines and ceremonies following his initiation would purify his soul, and fit him for a future life with the blessed who were redeemed from a fallen state.

Besides the public worship of the Gods and the public celebration of these mysteries, the Gods were worshipped and the mysteries celebrated privately by the initiated, and to give a greater solemnity, principally at night, when scenery and dresses were added to increase the effect. Hymns were sung, the powers of nature illustrated and God himself represented, or personated; the passions were moved, and scenes displayed as wild as at some of our camp meetings. The remains of this still exist in the East Indies.

In after times great abuses were introduced; the people added their own sports to those provided by the government; and in corrupt times their secret and night celebrations were still more abused. The ancient Druids and modern Free Masons retain a semblance of the initi-

atory ceremonies to the introduction to these mysteries, and the Christian church in Catholic times, and since then, the Protestants have embraced much of the essential principles. Mystery was marked on the Bishop's cap; "great is the mystery of Godliness, God manifest in the flesh, justified in the Spirit, seen of angels, &c."

There was a mystery in Baptism, in the Eucharist, in Miracles, the Resurrection, &c. All are mysteries. Infant baptism has introduced confirmation by the Bishop in the English Episcopal Church, and custom in the country parts of England, always accompanies this ceremony with "*kiss in the ring*," an abuse we suppose of the ceremony of confirmation by the imposition of hands, not meant by the Church. The principles of the mysteries, portions of the initiatory ceremony, and even some of the abuses have been brought down to our times. It seems a fact that time corrupts institutions founded in truth; but much more, and more rapidly those founded in error. Almost all religious doctrines and ceremonies have been well meant, and perhaps all have been grossly abused for the interest of the few. The only effectual check is the light of reason and science.

G. V.

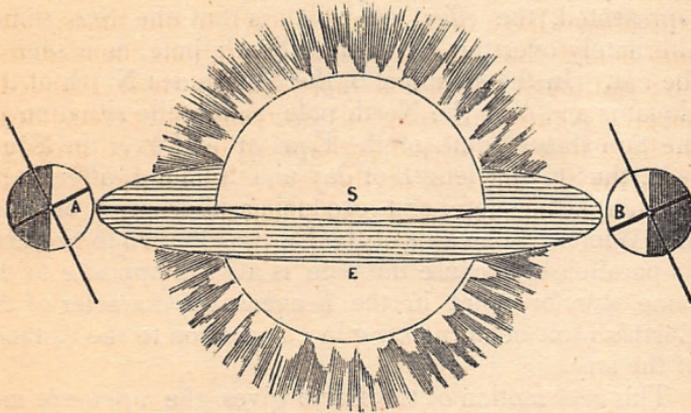
# NOTES

ON THE

## PRINCIPLES OF ASTRONOMY

REFERRED TO IN THE TEXT, TOGETHER WITH THE FREE MASONS'  
ARMS, AND A DESCRIPTION OF VALE'S GLOBE AND  
CELESTIAL SPHERE.

Fig. 1.



*Explanation of the Seasons and relation between the  
Sun and Earth.*

THE Earth revolving on its axis in presence of the Sun is evidently the cause of day and night, or else the Sun and the remote heavens without limit must revolve about the Earth in twenty-four hours,—an absurdity; besides, Venus, Mars, Jupiter, &c., are seen to move each on its axis by spots which passing across the surface disappear, but after the lapse of regular intervals, re-appear

on the other side, thus affording the means of determining the length of day to each, and as the Earth is a planet it is necessarily subject to the same motion. The existence of day and night on the Earth and the phenomena of the planets illustrate each other.

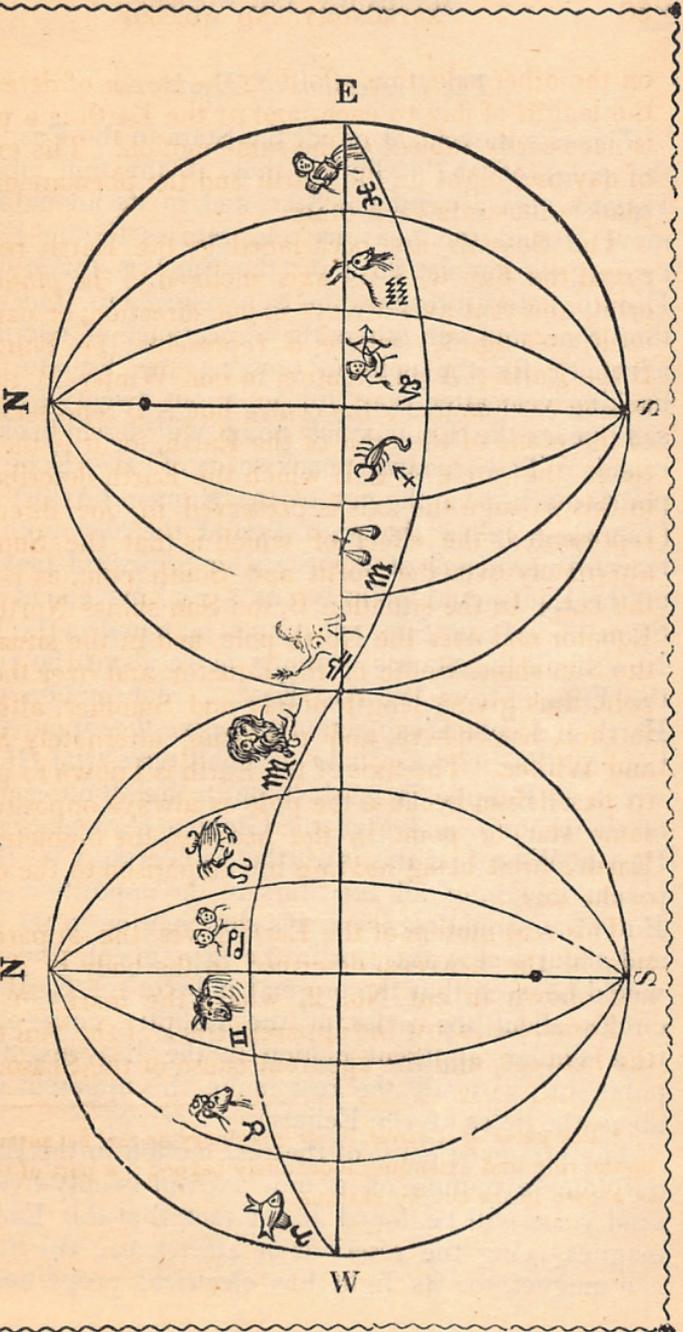
The Seasons are occasioned by the Earth revolving round the Sun with its axis inclined to the *plane*\* of its orbit, and that axis always in one direction, or parallel to itself, (see fig. 1,) where S represents the Sun, A and B the Earth; A its situation in our Winter, B its situation in our Summer; the centre line A B represents a part of the plane of the orbit of the Earth, for it is the diameter to the circle A E B which the Earth describes; but in this passage the axis is preserved in one direction as represented, the effect of which is that the Sun shines alternately over the North and South pole, as is seen in the cut. In the situation B, the Sun shines North of the Equator and over the North pole, and in the situation A, the Sun shines South of the Equator and over the South pole, thus giving length of day and Summer, alternately to each hemisphere, and producing alternately Summer and Winter. The axis of the Earth is known to preserve its parallelism because the pole is always opposite to the same star, or point in the heavens, the diameter of the Earth's orbit being *nothing* in comparison to the distance of the star.

This real motion of the Earth gives the apparent motion in the heavens, described in the body of the work, and shown in cut No. 2, where the marks ♈ *Aries*, ♄ *Torus*, &c., show the apparent track of the Sun through the heavens, and the apparent cause of the Seasons.

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\* The *plane of a circle*, is an imaginary or real flat surface filling up the ring and extending indefinitely beyond; a part of this plane is shown in the cut by shading.

*Out illustration of the Rev Robert Taylor's Astronomico-Theological Discourse, "Deity's Pulpit," "Volney's Rivers," Pupis in his celebrated "Origin de tous les Cultes," "Origin of all Worship," &c.—The cut represents two halves of the apparent heavens; and shows the present and ancient position of the signs of the Zodiac; the poles of the Ecliptic, &c.*



*The Precession of Equinoxes.*

This is a movement of all the Stars to the East about the poles of the Ecliptic: thus, if the Sun cross the Equator near a particular Star, and in its annual course moves round the heavens and returns to the Equator again, (see cut fig. 2d;) it (the Sun) is found on the Equator before it reaches the Star referred to, thus giving that Star and all others the appearance of making an advance; for the point of crossing the Equator keeps backing year after year, till in about twenty-five thousand years the Equinoctial point will have backed all round. This removal backwards of the Equinoctial points marked in the cut by the signs  $\varpi$  (Aries) and  $\text{♎}$  (Libra) is called the precession of the Equinox. This forward movement of the Stars, or backward movement of the Equinoctial point is not a real movement of the Stars, nor of the Sun, but it must be found in the Earth. Now if all the Stars apparently move about the poles of the Ecliptic from West to East, a real motion of the Earth in a contrary direction will give this apparent motion in the heavens: take a small terrestrial Globe on which an Ecliptic is marked, put a thumb on each pole of the Ecliptic and give the Globe a slow motion from East to West, and this is all that is necessary for the apparent motion of all the Stars in the opposite direction. But what should occasion this slow motion in the Earth, and about a new axis, for in the experiment proposed it would be seen that the original poles of the Earth make circles about the poles of the Ecliptic, corresponding to a similar apparent motion in the heavens, for the polar star, with all the rest make this apparent motion about the poles of the Ecliptic.

The presumed cause of the real motion in the Earth of only one revolution on a new axis, in twenty-five thousand years will be found in the fact that the Earth is a magnet, being the reservoir of electricity, the Sun also is a magnet, for its light has electrical properties: and

this also explains the cause of the annual motion of the Earth and its ecliptical orbit, for here is both the cause of attraction and repulsion, for the Earth will be attracted when deficient of Electricity and repulsed when it has a surplus, and hence is derived its ecliptical orbit and mean distance, for when attracted it approaches the Sun, and when repulsed, it recedes, till loosing its electricity it again obeys the laws of nature and approaches the Sun for a fresh supply, and these unequal opposite forces will necessarily give the Earth a circular, or rather an ecliptical motion, and the point of attraction will be the *magnetic* Equator, which would make the magnetic poles to correspond with the poles of the Ecliptic: here, then, is the cause of the inclination of the axis of the Earth to the plane of its orbit, for its orbit is the plane of the magnetic Equator which does not correspond with the Equator of the Earth, (see fig. one and two)—but the Earth is *thickest* or in greater body at the Equator, and if attraction is in proportion to the *mass*, then the attraction between the Sun and Earth will be greatest when the Earth is in one Equinox and the Sun in the other, and the attraction being greater, there will be an inclination in the Earth to adjust, or anticipate this conjunction by inclining its axis a little, just as we find is the fact, and so the Sun apparently is made to reach the Equator before it has completed its circuit; and as this little adjustment or inclination occurs twice a year, or is in *full* force at Spring and Autumn, it will give to the Earth this slow motion about the axis of the magnetic poles which explains the forward motion of the stars or precession of the Equinox.

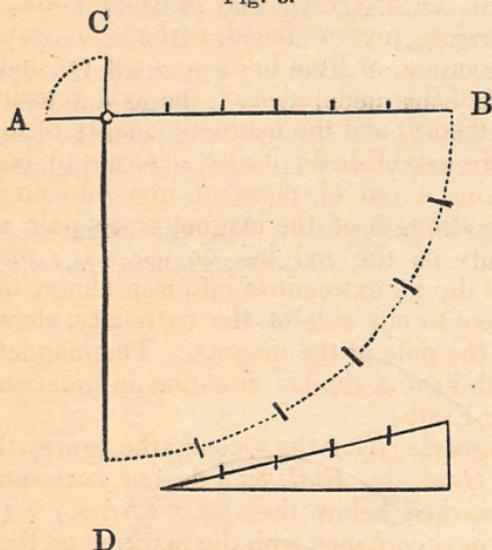
This is a beautiful theory, we have frequently advocated it in print and in lectures; but we always gave it as a *theory*, because the locality of the magnetic poles on the Earth has never been absolutely identified, nor the magnetic Equator laid down with certainty, but the approach to these discoveries get nearer, and they will probably be realized. The late Dr. Sherwood of New-York long since asserted that the magnetic pole is absolutely

identical with the pole of the Ecliptic, and consequently the Ecliptic in the heavens will be in the same plane as *magnetic* Equator on the Earth. If this were susceptible of proof such as the physical science now requires, it is an important discovery of Dr. Sherwood, and will ultimately be applied to the arts, especially of Navigation; but all attempts have at present failed, perhaps for want of accurate observation, or from influences not yet understood, but the fact of the inclination of the axis remains independent of theory, and the magnetic quality of the Earth and Sun are established; it also deserves to be noticed that in making a rod or piece of iron into an artificial magnet, the strength of the magnet or its pole is not at the extremity of the rod but on *one side*; for, take a magnet and dip its extremities into iron filings, these will chiefly adhere to one side of the extremity, showing the situation of the pole of the magnet. The magnetic poles on the Earth have a similar situation in relation to the poles of the Earth.

In the engraving, (cut the second,) the figures, the *Fish*, the *Ram's Head*, the *Bull*, &c., do not correspond with the signs marked below them as ♈ (Aries,) ♁ (Torus,) &c., this is in accordance with the marking on the Globe, for, while the signs, in regard to the Ecliptic, are fixed making the part where it crosses the Equator to the North, always the first point of Aries ♈, the Constellations, Aries, Torus, Gemini, &c., have actually moved forward as represented in the cut; these Constellations are given for their present situation: ☞ to put them where they were two thousand years ago, push back the Ram to where the Fish is, and let all the other signs follow, and to put them where they will be in two thousand years to come, push forward the Ram to the place of the Bull, and with it move all the other signs, and suppose all the Stars have a corresponding motion, then you can note the effects which this motion has, for some Stars and Constellations, now North of the Equator, will be at some period South, and those South will be North: that

is from this mere precession of the Equinox or forward motion of the Stars on the circle of the Ecliptic or about its poles; the declination of all the Stars is changing as well as their longitude and right ascension.

Fig. 3.



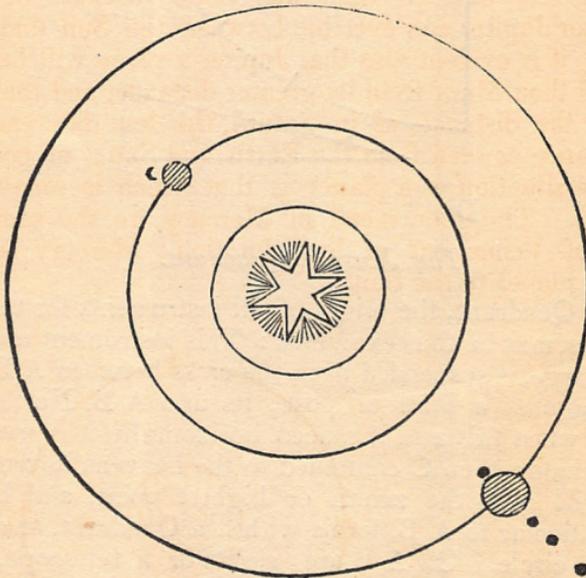
*The Murale Quadrant.*

This Quadrant, the origin of all instruments for taking altitudes, may be thus explained: This instrument usually made large, is suspended from the cross between A B and C D against a wall or post; its arm A B, North and South, when this arm is placed horizontally it represents the horizon; then C continued to the heavens in the line D C will give the zenith or highest point, and being perpendicular to A B, forms with it a Quadrant, or quarter of a circle. On A B are sights or a telescope, and from the cross a plumb line hangs in the direction of C D. If the arm A B be depressed so as to point to any object above the horizon, the arm C D will be raised just as much as the other was depressed, and the plumb line

will mark the portion of the circle cut by itself; this portion will give the altitude expressed in degrees of a circle; thus, there are ninety degrees ( $90^\circ$ ) in a quarter of a circle; if A B be depressed thirty degrees, the arm C D will rise thirty and the plumb line will show it; in the same way the arm A B will cut off thirty degrees on the little Quadrant A C. The arch D B is made large to admit of accuracy of division; our small Quadrants and Sextants are constructed from a large one by transferring the divisions by a straight arm from the centre, and thus equal accuracy is given to the beautiful instrument now in use.

The triangle below is a Masonic Square, of use in practice, and as a symbol of uprightness and integrity.

Fig. 4.

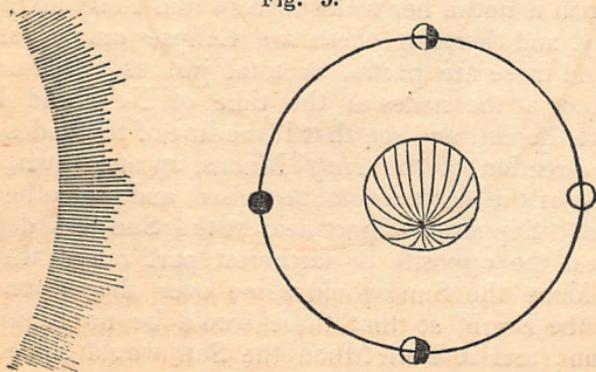


This cut represents Planetary Phenomena. First, let the centre represent the Sun; the nearer circle the orbit of Venus; and the next the orbit of the Earth. Venus,

in motion, as seen from the Earth in the farthest part of its orbit, will appear to go one way, and when passing in the nearer part of its orbit it will appear to go backward, for its apparent place has reference to the fixed Stars, and its circular orbit not being seen, it will necessarily appear to move backwards and forwards. The motion of the Earth during the motion of Venus does not affect the appearance, or the retrograde motion of the latter, for as Venus moves quicker than the Earth about the Sun; the excess of her motion over that of the Earth will produce the same phenomena as if the Earth stood still and Venus moved equal to that excess.

Again, let the smaller or first inner circle represent the Earth's orbit, the next that of Mars, and the next that of Jupiter; these planets as seen from the Earth in its orbit, will be less affected than was Venus, because neither Mars nor Jupiter can ever be between the Sun and the Earth; it is evident also that Jupiter's place will be less affected than Mars' from its greater distance, and that the greater the distance, as in Saturn, the less difference in appearance as seen from the Earth and Sun; of course, the true situation of a planet is that which is seen from the Sun. The phenomena of Mercury are the same as those of Venus, but of less duration; Mercury is the nearest planet to the Sun.

Fig. 5.



This cut illustrates the relations of the Earth, Moon and Sun. The centre figure represents the Earth, the circle about it the orbit of the Moon, the small figure, the Moon at new, full, and the quarters, receiving the rays of the Sun on one side and reflecting them on the Earth. The place of New Moon is when she is between the Sun and the Earth, for then her dark side is presented to the Earth; the place of Full Moon is, when she is at the greatest distance from the Sun with the Earth between her and the Sun, for then her enlightened side is next the Earth. From New Moon in her passage round the Earth, she appears in the crescent form increasing to Half Moon, and from that increasing to Full Moon, then waning 'till Half Moon again, and then again in the crescent 'till she complete her former situation of New Moon.

The cut does *not* represent the nodes, a knowledge of which alone explains why there is not an Eclipse of the Sun every New Moon and of the Moon every Full Moon. Imagine one-half of the circle representing the orbit of the Moon a little raised on one side, and the other as much depressed; the points neither depressed nor raised, but forming the pivots, would then represent the nodes, and if these points occupied the places of New and Full Moon, then there would be Eclipses at those times; but the places of the nodes change; they move backwards, that is, contrary to the signs of the Zodiac, consequently the Moon is not in her nodes at New and Full only occasionally, and therefore there are Eclipses only occasionally, and these are partial or total just as the Moon is near to or at the nodes at the time of New and Full. Observe the cut, and see that if the line of the nodes was in the direction of the *Half* Moons, up and down, then one side of the orbit would be raised and the other depressed. Suppose the part nearest the Sun was depressed, and the opposite or farthest part raised, then at New Moon the Sun would shine over the Moon and reach the Earth, so that there would be no Eclipse of the Sun; and at Full Moon the Sun would shine over

the Earth and prevent the Eclipse of the Moon. As the figures in the cut now are, the Sun, Moon, and Earth are all in the same *plane*; the angle which the Moon's orbit makes with this *plane* is called the angle of inclination; it is represented in the cut of two serpents, formed by two circles of equal size, one of which represents the *apparent* orbit of the Sun, as seen from the Earth, the other represents the orbit of the Moon, as seen from the Earth, the spaces between forming the bodies of the serpents, the angular meetings of these circles forming the nodes, and the greatest thickness of the bodies expressing the measures of those angles, viz.,  $5^{\circ} 9'$ . (See the account of Serpent Worship.)

#### *The Masonic Arms.*

We insert this cut from Fellows' Freemasonry, or Exposition of Ancient Mysteries, to illustrate the connexion between the Ancient Worship and Freemasonry

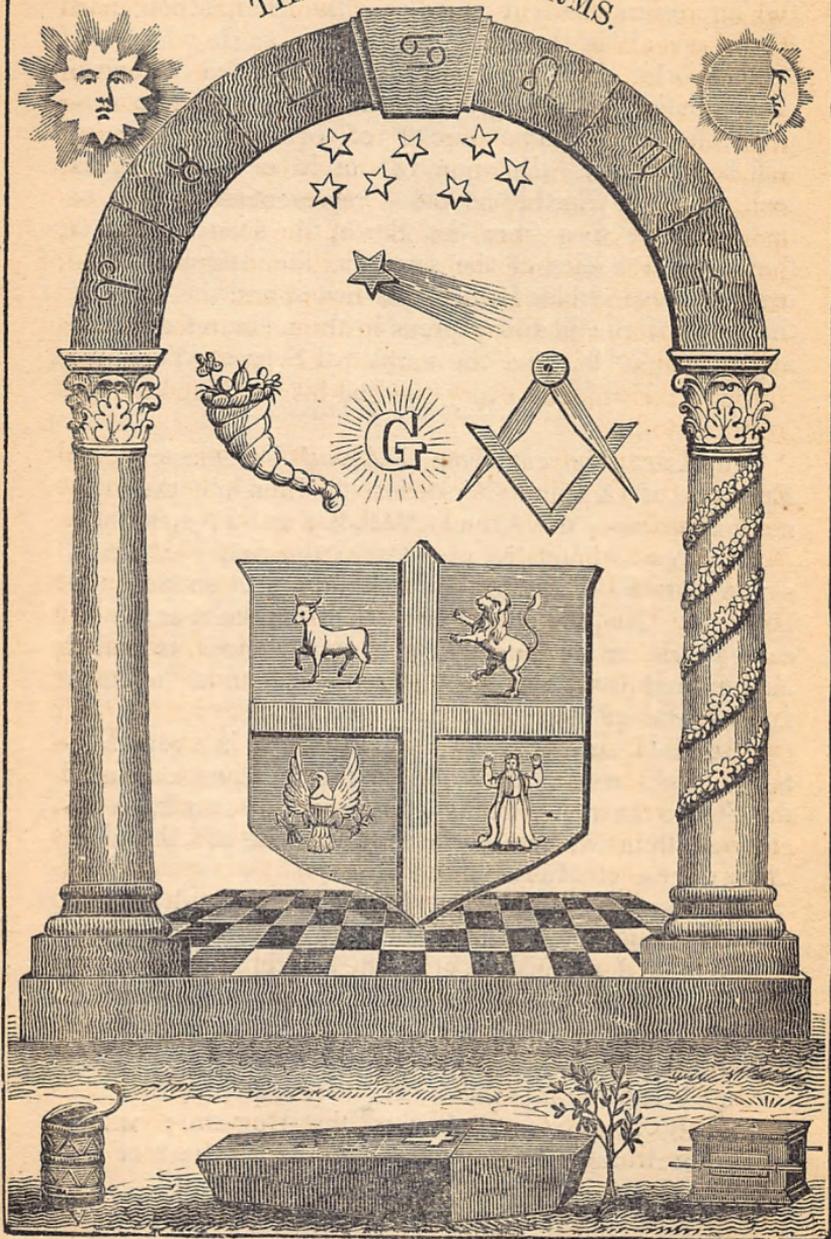
*The two Pillars* represent two imaginary columns, supposed to be placed at the Equinoxes, to support the heavens. The one on the left is called Boaz, and indicates Osiris, or the Sun: the one on the right is called Jachin, and designates Isis, the symbol, both of the earth and its productions, and of the Moon.

*The Arch*, supported by the two pillars, is a representation of the semicircle made by the apparent course of the Sun in the upper hemisphere, from Aries to Libra inclusive; from whence originates the name of the *Royal Arch* degree of Masonry.

*The Seven Stars*, are the Pleiades, "a small platoon of stars, says Pluche, very remarkable, most known, and easiest to be distinguished, of all the constellations. They were particularly useful to regulate the informations given to the disciples of the priests, by means of an atlas." "They were," says Bailey, "very famous among men, because they intimate the season of the year."

*The Blazing Star* is Anubis, the Dog-star; whose rising forewarned the Egyptians of the approach of the

THE MASONIC ARMS.



overflowing the Nile. Hence the great veneration in which it was held by them, and which has descended to the Freemasons.

*The G* indicates Geometry, the knowledge of which was of vast importance to the Egyptians in measuring their lands,—the boundaries of individual property being removed by the inundation of the Nile. This science, consequently, was considered by them *divine*; and acquired a sort of mystical union with the Deity. The *G*, however, was not intended as the initial of the word God, that term being unknown to the Egyptians.

*The Square and Compass*, as instruments in the science of geometry, became an emblem of *justice*; because through their means, every one had his “old land-marks” restored to him.

*The Cornucopia, or Horn of Abundance*, was a symbol used by the Egyptians to denote the sun’s being in the sign *Capricorn*, when the harvest was gathered, and consequently an abundance of provisions laid up in store.

*Armorial Bearings*.—These will be recognized as the Bull, the Lion, the Eagle, and the Man, the four favorite and prominent constellations of the ancients, indicating the four seasons and their great feasts, and illustrating various fables and mythical tales connected with their worship. It is particularly applicable to Dupuis’ Illustrations of the Apocalypse, which we are about to publish.

*The Chequered Flooring*, called *mosaic* or *musaic work*, represents the variegated face of the earth in the places where the ancients used formerly to hold their religious assemblies. This imitation was made when temple-worship was introduced, to reconcile the people to the change.

*The Cenotaph, or Mock-Coffin*, used in the anniversaries, is typical of the death of the sun in the inferior hemisphere, under the name of Osiris; who is personated by the Hiram of masonic fame.

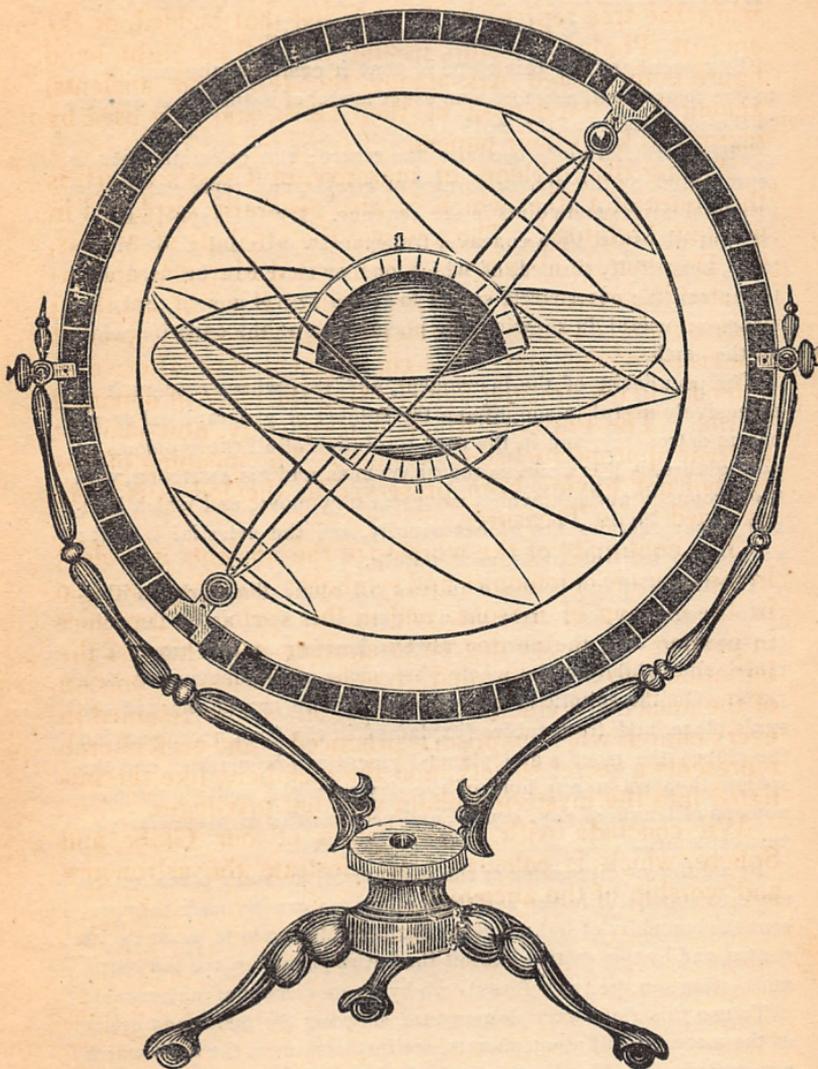
In the small vessel to the left, we recognize the serpent-worship; connected with the serpent story in scripture; it is also the pot of manna mentioned in the scripture,

while the tree represents Aaron's rod that budded, or the ancient Phalus worship, giving life. The right hand figure is the sacred Ark among the Jews and ancients, among both the deposit of their Gods, and now used by masons to keep their papers.

Among the emblems of masonry, in Cross's Chart, is the figure of a *Key*, which is also generally displayed in masonic Monitors. The key was the attribute of Anubis, the Dog-star, in after times denominated Mercury, and indicated the closing of one year, and opening of another; because the Egyptians formerly commenced the year at the rising of this star. Its employment was afterwards extended to the opening and shutting the place of departed spirits. The Popes of Rome, consequently, now claim it as their appropriate badge of office. The meaning of this symbol not having been preserved in the lodge, is there assigned to its Treasurer.

The continuity of the worship of the ancients is evident in the masonic ceremonies and symbols: we recognize also in the making of masons, and in the various ceremonies in passing from one degree to another, something of the initiation into the lesser and greater mysteries. A portion of the ancient ceremonies of initiation is also retained in every church where baptism is practiced; and each church represents a secret society, and the members, like the initiated into the mysteries, claim spiritual privileges.

We conclude with a description of our Globe and Sphere, which is calculated to illustrate the astronomy and worship of the ancients.



**VALE'S GLOBE AND SPHERE.**—This figure is introduced because of its applicability to the subject. The ancients had something of the kind with which they pursued their studies in their chambers—with this Globe and Sphere *all* the pictures or *tableaux* referred to in the text could be represented. To aid this, in the larger sized Globes the ancient constellations are distinguished by coloring in the transparent sections recently finished, and furnished with the Globe. The following is a description of this instrument:

## BRIEF EXPLANATION OF VALE'S GLOBE AND CELESTIAL SPHERE.

THE peculiarity of this globe is, that it combines the two globes in one instrument, and forms an exact model of nature as it appears to the inhabitants of the earth

The terrestrial globe occupies the centre; the celestial globe is represented by the sphere formed of circles, and representing the principal circles and points in the heavens. ☞ This sphere is covered, at pleasure, by a concave, transparent, celestial globe in sections, beautifully formed, of which one or more can be used at a time; and the outer circle serves to give a swivel motion to the instrument, useful in showing the phenomena at the opposite points on the earth.

The peculiarity of the instrument, and that which renders it so extensively useful in simplifying the subject of geographical or apparent astronomy, and in the easy resolution of all the problems on both globes, is ☞ a MOVEABLE TRAVELLER and his ANTIPODE, with their common horizon, which moves as they move, and which horizon always divides the globes equally, and the celestial into the visible and invisible parts, as in nature.

The traveller can be made to pass all round the world to illustrate geography, or to rest on any particular spot, as at the pole, the equator, &c., the horizon always keeping at the proper distance, and exhibiting the whole phenomena of the heavens at such parts. On the ecliptic of the celestial sphere can be marked the sun's place, and from tables (explained in the book accompanying the globe) the moon's and planets' places can be marked, and the sphere then set to any hour of the day or night, and all the phenomena of length of day, season, and peculiarities at particular places, explained.

By a different disposition of the instrument, the sun's place can be made to stand still in the zenith, the horizon can be made to represent the boundary of light, and the earth can be made to move on its centre, and by this motion exhibit the entire phenomena of the rising and setting sun, &c., as before shown by the movement of the heavens.

To use this globe as a planetarium, showing the nodes and orbits of the moon and different planets, see instructions in the book which accompanies it. Also see the book, for its use in spherics, the higher branches in mathematics, and as a sun-dial.

N. B. These globes can be seen at the establishment CHATHAM square, New York, and explained by the proprietor and inventor, and can be sent to any part of the Union.

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FROM THE FIRST SETTLEMENT TO THE PRESENT TIME

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BOSTON, 1868.