

Freemasonry, Architecture & Sacred Geometry 3.0©
Presentation to the Western Canada Masonic Conference Sept/99 Banff Lodge
By RW. Bro. Victor G. Popow

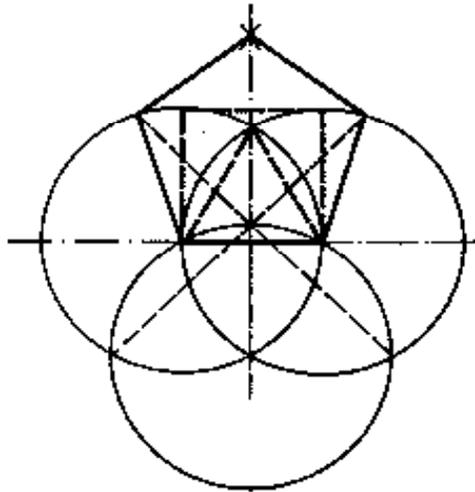
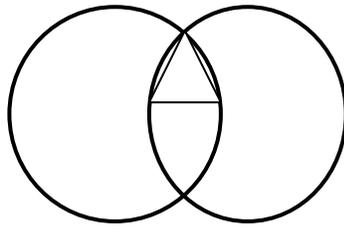
Introduction

A stone mason was asked what he was doing and he said: "I'm laying stones." In similar manner another craftsman was asked what he was doing and he replied: "I'm building a great cathedral," the two responses represent a difference in perspectives. I challenge the speculative Freemasons of today and similarly test their views. Most are busy 'laying stones', that is, engaged in the labourious and necessary tasks- financial activities, dues structure, rent and per capita, others concern themselves with charitable projects, some will say that they are concerned with numbers and membership and are involved with marketing, advertising and opening Masonry's doors and still others will find enjoyment in the fraternity's social activities. I am concerned that none will reply that they are 'building the cathedral' or seeing the forest for the trees. How many are truly committed to discovering the historical, philosophical or deep symbolic aspects of their Craft?¹ The foundation of our Craft is its ritual and the information contained in it. The men of the eighteenth century who fashioned that ritual were inspired by ancient knowledge and cultures and it is this avenue we must pay particular respect to and promote interest in for therein lie the lessons of Freemasonry.² Masons *must* escape their late 20th century paradigm's and realize that the seven liberal arts and sciences are not merely trite references to a *secular* education but reflects an *inner philosophical path*, which may sponsor or inspire personal and hence social transformation.

On Earth as it is in Heaven-Symbolic or Sacred Geometry

Medieval operative Masons or more suitably the architects themselves were well versed in not only the 'secrets' of projective geometry and mathematics derived from Arab influence in Spain and via the 10th and 11th century European Crusaders but equally inspired by the numerical symbolism of the Greek Platonists themselves inspired from the Pythagoreans. Thus it is today *symbolic* numerical values permeate throughout Freemasonry- for example the numbers three, five or seven- and we must ask ourselves what is the importance of these numbers and of the fifth science or geometry? Why should the study of spatial relationships, a science that is quantitative, be central to a fraternal society? It hardly seems to make sense. But if we should choose to change our twentieth century paradigm from examining the *quantitative* value of numbers (1+ 1= 2, \$, %) into one which focuses on the *qualitative* value (1 is the symbol of unity, 2 the divine split into the male and female attributes etc., the *symbolic* meaning of 3, 5, and 7) of numbers then a wholly new orientation begins to accrete. Then it would seem our understanding of the Craft becomes a meditative and philosophical one. We must identify that our ancient brethren, that is the ancient operative architects, were not only skilled in building structures but *also* skilled in the speculative arts and paid *equal* attention to impregnating those structures with symbolism.

Sacred geometry is the exploration of this qualitative nature of number. It describes the proportions and ratios of physical structures or sites (Sacred geography³) which reflect universal constants; a universal and heavenly language which clever builders reverently employed to speak about God and His Universe. The foundation of sacred geometry figuratively rests on key transcendental mathematical theorems such as pi (π) and phi (ϕ) or the Golden Section⁴. The earliest Christians called the geometric figure of the vesica piscis (two intersecting circles of equal diameter) the womb of the fish. The vesica is considered a 'form generator' considering all the polygons which may arise from a succession of vesica constructions (see next page). The vesica was also widely employed as a template for cathedral plans and as an aureole around the figure of Christ in early representations.



The ancient Pythagoreans, for example, did distinguish between the practical and spiritual meaning of numbers and to them *everything* was number. They believed that the universe was imbedded with harmonic relationships, which governed everything from the motions of the stars to the tones of the musical scale. The investigation of the meaning of numbers was not mundane but rather spoke of relationships and patterns which could elevate the human spirit and bring an initiate closer to that which was Divine.⁵

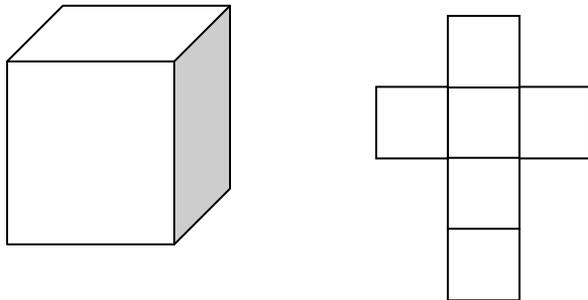
St. Augustine saw “in number an image of the absolute” which led him by investigation of number symbolism, to discover the mysteries of God that are set down in scripture.⁶ The ancient Hebrews, Greeks, Arabs and Sanskrit alphabets all employed symbols which served as both numerals and letters- this is known as *Gematria*⁷. For example the Hebrew word *Adam* doubles as a symbol of the number 4. St. Augustine noted that man as a metaphor is a tetrad or man of four, and *Adam* is composed of four letters, which represent the four winds. Thus he reasoned that “knowledge of divine things is disseminated throughout the world by the four gospels, evangelists or beasts emblemized by the four extremities of the cross.”⁸ Letters, words, books, buildings, all was symbolic and all intertwined in expression designed to inspire and lead a person to divine contemplation.

The Royal Portal of Chartres Cathedral, c.1140 CE, displays Christ in the midst of the world surrounded by four figures of an eagle, a lion, an ox or bull and a winged figure and are commonly explained as symbolic of the four evangelists- St. Matthew (the winged figure), St. John (the eagle), St. Luke (the ox) and St. Mark (the lion). In the Hebrew Talmud we find that “a pictorial emblem was engraved on the ensign of each of the twelve tribes of Israel.”⁹ The tribe of Judah depicted a lion (the astrologic sign of Leo), Ephraim a bull (or Taurus), the tribe of Rueben a man (Aquarius) and Dan an eagle (the sign of the scorpion equated with an eagle or in Egyptian astrologic symbolism a serpent). The tribal symbols having interesting correspondence to the signs of the zodiac and



numeric equivalents; the lion being ascribed a numerical value of 5, the bull 2, the man 11 and the eagle 8. Added together we find the values equal 26, the Kabbalistic numerical equivalent representing the sacred name of Jehovah or God. These same four symbols may also be found on the present day Freemasons United Grand Lodge of England coat of arms.

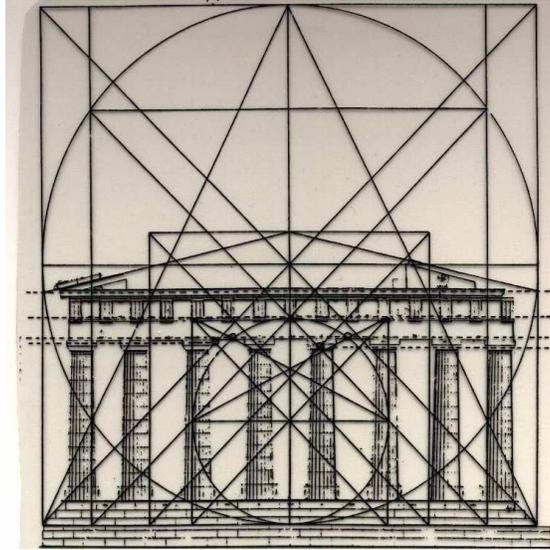
The symbolic cube, not unlike the inner chamber or Holy of Holies of King Solomon's Temple, which measured twenty cubits by twenty cubits by twenty cubits, when unfolded, reveals the symbol of a cross. The cube is bounded by 6 equal faces, 12 equal lines and 8 external points, which when added together equals the Kabbalistic number 26 or the number of God.



Throughout the world from one culture to the next architecture integrated with sacred geometry and imbedded with astronomical characteristics has provided the world with structures which inspire transcendence. One may find numerous examples: the Parthenon in Athens or the King's Chamber of the Giza pyramid (whose dimensions reveal the use of the formula phi) to the Kabbalistic ground properties of King's College Chapel in Cambridge, to the dimensional properties and ratios of William St. Clair's brilliant Rosslyn Chapel in Scotland and the Notre Dame cathedrals throughout France- the use of sacred or symbolic geometry is global.

In Canada, we find 13 eighteenth century churches in Nova Scotia identified by retired professor of Architecture Attila Arpat as exhibiting intriguing properties. According to Prof. Arpat these buildings constructed by English and Scottish Freemasons "demonstrate sacred geometry and numerical symbolism."¹⁰

Below: geometric analyses of the Parthenon by Tons Brunes from his book *The Secrets of Ancient Geometry*. It can be seen that the design is governed by the relationship between side and diagonal in a series of squares with ratio of 1 to 1.25, therefore the entire proportional system is based the relationship of $\sqrt{2}$ to 1.25.



In the city of Winnipeg, Manitoba, we find the Westminster United Church, at Westminster and Maryland, which is so expressive in its design. The Architect and designer was Bro. John Russell who served as Director of Ceremonies in 1918 and Manitoba Grand Lodge Secretary from 1935 to 1946. This structure has three, five and seven steps at its front entrance, the cornerstone is a perfect ashlar, the auditorium shows the basic form of a Maltese cross and the most curious feature, the rose window is not unlike the feature of Chartres cathedral in France. The window is strategically placed so as to capture the sunlight perfectly at the summer and winter solstice (June 21 and December 21- in relation to the two Holy St'. John) so that light may fall directly upon the Bible which lies upon the alter.

An important passage from *Gematria* by Bligh Bond & Lea entitled on *Geometric Truth* conveys: "Mere words of natural significance fail to interpret spiritual ideas unless a figurative meaning be added to them. By type and symbol alone can the essence of truth be conveyed. In myth and parable the poet, prophet and religious leader in all time present to us the realizations of their spiritual sense.

And not in the imagery of words alone, but in Architecture, and its allied arts, some of the most sublime of human conceptions have been conveyed. Architecture has been the interpreter to man of the Universal Truths, those which express the Mind and Works of the Creator, for Architecture is the witness to the Formative principles which underlie Nature, and speaks of the Immutable Foundations.

And these are expressed in the symmetry of geometric forms, co-related by Measure and Number. Thus Architecture constitutes a higher language adapted to sacred uses.

Now in the Greek Gematria we have what may be termed the Architecture of Language, for the Gematria unites both elements, both modes of expression, and in a wonderful accord, since words are therein related in their sense to Number, by their Number to Geometry, and by their Geometry again to Building. For all Building, whether of Words, Ideas, Figures, or Material Forms, is founded on fixed proportionals which we have termed Aeonial, and these we study under the name Geometry....Geometry is therefore a sacred study, the Language of the Great Verities, and it follows that any language built upon Geometry will contain more than at first meets the eye, and will be capable of a limitless power of expression, because its rational terms are eternal in nature, and infinite."

Conclusion

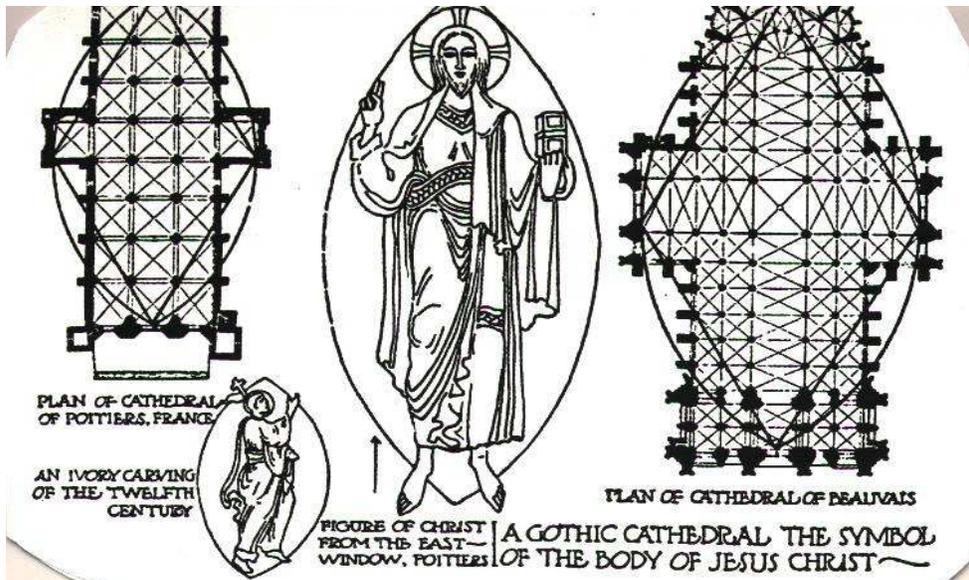
The desire to create buildings founded upon sacred principles continues even today. Witness the resurgence and popularity of the ancient oriental science of Feng Shui¹¹ in western architecture. Despite popular trends we must ask *why* all of effort to impregnate symbolism in structures? Why integrate mathematical, numerical philosophy with astronomic details or astrologic symbology?¹² We may find answers in the past and in Masonic references. The forty-seventh proposition of Pythagoras erroneously attributed to Euclid, is today symbolized as a Master's jewel, "if rightly understood, is not only the foundation of Masonry, but all proportions and dimensions whatsoever."¹³

The ultimate goal of the understanding and promulgation of Freemasonry is closely connected to the symbolic treatment of number within its ritual but also in a more practical way to structures and geographical features- for the ultimate benefit of uplifting the individual and society. As an example, modern historians attribute the unprecedented building program of Cambodian god-King Jayavarman VII¹⁴ (ruled 1181-1219 AD) to megalomania yet his intent may have been more altruistic. Temple inscriptions tell us that the King was 'full of deep sympathy for the good of the world' and that his temples were part of a grand scheme to win the 'ambrosia of existence' for 'all of those who were struggling in the ocean of existence.' So in fact the temples of Ankor Wat or Ankor Thom (and perhaps even the Giza Pyramids) may not have been monuments to megalomania but rather sacred instruments used to direct the human spirit.

Should modern day Freemasons be aware of these various elements? Of numerical philosophy and sacred geometry in architecture? Many would say that what I have presented is too cerebral. I know of some Grand Lodge Librarians who wince at the idea of such studies and most Freemasons prefer to limit their investigations to more mundane topics. But if we look back, and study ancient architecture, its philosophical symbology along with various connected subjects this speculative avenue then becomes telling. And this particular speculative philosophy is *exactly* what drew the minds of early speculative Freemasons¹⁵. These were the secrets of building- not only of structures on earth, but these sciences were esteemed for the effects they had on the human mind, a human alchemy, which focused on the transmutation of the human spirit. Freemasonry will simply devolve into another social society if we choose to disregard what enlightened builders understood, the meaning of sacred principles which serve to focus the mind and spirit. The architects of old built with reason and purpose and nothing was accidental. It is my belief that the study of the practical and symbolic subjects of sacred geometry and architecture is *entirely central* to Freemasonry and we must not let this knowledge vanish. These various subjects fold into one another and form a grand scheme which allows us to penetrate the true and divine mysteries of self, of nature and of the Great Architect. And there could be no more interesting or important journey.

"Before all else, get thee knowledge"

King Solomon



Above: reproduced from *Jesus the Master Builder* by Gordon Strachan

16

Footnotes

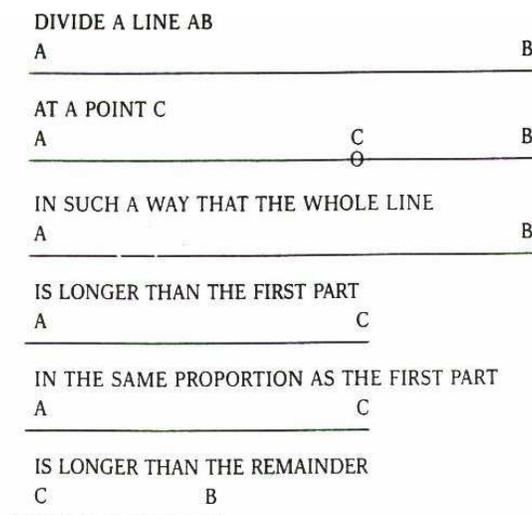
¹ *“What Freemasonry is all About!”* by V. W. Bro. Rev. Neville Cryer. From *Speculation*, the 1995 North American Lecture Tour collected papers. Bro. Cryer, world renowned Masonic lecturer, author and Past Master of the Quatuor Coronati Lodge of research #2076 in London, England, explained that Freemasonry was not about charity, though it was an activity; not about fraternity, that is dinners, guests, and socializing, though that too was prevalent and important. It was not a ‘code of life,’ a religion or a replacement for religion, though morality is certainly pervasive through its ritual. Bro. Cryer described “Freemasonry as a heartfelt sharing, by men who have their own personal religious and moral convictions, of *certain insights into the nature of existence* [italics mine]. It can only be communicated by ancient and agreed formulae, that require careful memorization and constant meditation.” He further commented that Freemasonry was designed to “form and stimulate the minds and hearts of men.” In addition the recently published remarks of R.W.Bro. Michael W. Walker, Grand Secretary of the Grand Lodge of Ireland reveals the same thought. In *Freemasonry in Society- Today and Tomorrow* (AQC Vol. 110, 1997, pp.107) he writes: “the purpose of Masonry is ‘self-improvement’- not in the material sense, but in the intellectual, moral and philosophic sense of developing the whole persona and psyche so as, in the beautiful and emotive language of the ritual, ‘to fit ourselves to take our places, as living stones, in that great spiritual building, not made by hands, eternal in the Heavens.’”

² The common and widespread view, which asserts that speculative Freemasonry evolved solely from operative Masons, the Transition Theory, has for several years not been seen by Masonic scholars as complete. Masonic scholars have always been perplexed as to why gentlemen and even aristocrats would wish to associate with tradesmen or stone masons. Bro. Trevor Stewart, member of the Quatuor Coronati Lodge of research put forward the question: “The Craft would hardly have attracted and continued to retain the interest and affection of such inquiring minds as these if the intellectual and spiritual content of the lodges ‘usual activities had been banal.” It would certainly seem that the origins of speculative Freemasonry are a result of the convergence

of many influences. I would refer to this then as the *Convergence Theory* of the Craft. It is probable that modern day Freemasonry was the evolutionary outgrowth of: Neo-Platonism; the Hermetic and Kabbalistic streams of the Renaissance; the Knight's Templar and their sponsored craftsmen the Compagnonnage or Sons of Solomon; the 14th & 15th century Rosicrucian societies; and the monastic orders of the Benedictines, the Cistercians and the Gothic building schools such as the famous Cathedral School of Chartres.

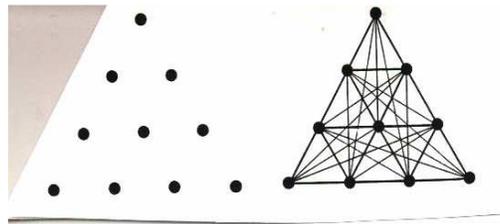
³ As of late investigators have seen correspondence between the geographical arrangement of structures and astronomical features. Author Jean Richer in his *Sacred Geography of the Ancient Greeks, Astrological Symbolism in Art, Architecture, and Landscape* demonstrates the manner in which temples were positioned and aligned. Having identified that the Grecian landscape was divided into twelve parts with the sacred site of Delphi as the centre Richer studied in detail and came upon startling conclusions. Richer writes: "The work of P. Saintyves, *Deux Mythes evangeliques: les douze apotres et les soixante-douze disciples* (1938), contributed some important information. On the question in general, he wrote: The influence of the stars in the sky, and especially of the twelve signs that mark the path of the moon and the sun, could be arranged as a reflection of the heavens. The division of a state, population and territory, into twelve sectors was an expression of reverence for the gods of the zodiac, the twelve great celestial deities, and it would surely attract their blessings. That this was true in Chaldea, at least towards the year 2000 BC can hardly be doubted." Other notable examples of sacred geography include the Giza pyramid complex which mirrors the constellation of Orion; the Temple of Ankor Wat in Cambodia, built in 1150 A.D, copies the constellation of Draco in its physical 'true north' site alignment and arrangement of its structures. The entire temple complex is encoded with the processional number 54 and the central temple lines up perfectly with the spring equinox when the day and night are of equal length; the geographical pattern of the Notre Dame cathedrals (Reims, Amiens, Chartres, Evreux and Bayeux) reflect the star constellation of Virgo; the temples and sites of Central and South America, for example the Mayan city of Uxmal which is a terrestrial model of the constellation Aries (*The Zodiacal Temples of Uxmal*, 1921) and the famous Nazca lines which are increasingly being thought of as representations of constellations in the Milky Way (The 15th Annual Meeting of the Society for Scientific Exploration 1996).

⁴ The Golden Section (ϕ) is a very unique ratio and is defined as "the ratio between the greater and smaller part is equal to the ratio between the whole and the greater part." It governs the relationship between the human body, all animals, plants and the pattern of growth for all living things.



THIS WILL MEAN THAT $\frac{AB}{AC} = \frac{AC}{CB} = 1.618$

⁵ “The tetraktys is a Pythagorean construct attributed to its inventor Pythagoras. Forming an equilateral triangle the sequence of numbers are formed in rows with a total of ten numbers. From this construct may be derived the four sacred studies of quadrivium (from the four levels of the tetraktys: arithmetic, the study of number $1+2+3+4 = 10$; the study of music which is the study of ratios. The ratios 1:2 (musical octave; geometrical proportion); 2:3 (musical fifth; arithmetic proportion), and 3:4 (musical fourth; harmonic proportion) form the elements of what is known as the Pythagorean ‘music of the spheres;’ the study of geometry-length, width and height; the fourth study is that of astronomy, the study of three-dimensional objects in a fourth dimension or motion in space-time. However each of the four studies led to a fifth or transcendent science or that of dialectic, the study of the metaphysical realm of ideas and the bond uniting all the previous studies.”



⁶ *What Number is God? Metaphors, Metaphysics, Metamathematics and the Nature of Things* by Sarah Voss, p.76.

⁷ Gematria- “ About the fifth century BC there began to appear in the Syro-Phoenician centre east of the Mediterranean, traces of a mode of writing in which the letters of the alphabet serve also the purpose of numerals. Though coming from this centre, the origin of the method is not believed to be Phoenician but to traceable to more eastern source. From this parent influence two systems are derived. These are the Greek and Hebrew. Both systems attained a high degree of development about the third century BC. Both languages are constructed with great skill, and are evidently the work of highly instructed men animated by a clear purpose. Though compiled from older and far less perfect material, they represent something far more than the natural evolution of that material. They show system, but they also show peculiarities, sometimes having the appearance of intention, for which no adequate reason has yet been offered. Their alphabets, which are also numbers, exhibit unexplained features, some of which may be described as mysterious. It is scarcely reasonable to suppose that the element of chance has in any appreciable degree entered into their framing. And this is the more unlikely in that there is evidence of a contrary belief among these peoples, who showed a peculiar reverence for their alphabets, ascribing to each letter its own mystical value, and, to the whole, a body of symbolic teaching in which the principles of number, sound, and also form as connected with each letter, all played their part.” From *Gematria, a Preliminary Investigation of the Cabala* by Bligh Bond & Lea.

⁸ *Medieval Number Symbolism: Its Sources, Meaning, and Influence on Thought and Expression* by Vincent Foster Hoppier, p.84.

⁹ The four evangelists were Christian inventions based upon the far older Hebraic ensigns of the tribes of Israel and “the four archangels of the God Most High” found in the *Book of Enoch*, Michael, Raphael, Gabriel and Auriel.

¹⁰ *Secret Numerology and Geometry in the Churches of Nova Scotia* by Attila Arpat, Nova Scotia Historical Review, Vol. 14, No. 1, 1994, p.79.

¹¹ *Feng* meaning wind and *Shui* meaning water, a 6000 year old Chinese philosophy of living in harmony with the environment. The most recent examples of Feng Shui architectural design may

be found in the new British Airways Corporate headquarters at London Heathrow and the new \$1 billion dollar J. P. Getty Museum in Los Angeles.

¹² Recently writer David Ovason in the newly published *The Secret Zodiacs of Washington DC* explores the very deep meaning of the city plan of Washington DC designed by eighteenth & nineteenth century Freemasons. Ovason has located over 20 central astrologic representations throughout the centre of the city- and over a 1000 images in the city itself- each pointing to an extraordinary mystery. He explains the dominant astrologic sign of Virgo (with its corn-sheaf symbol which every Mason will have identification with), a sign of nourishment, along with the sign of mercury and the caduceus, inspiring commerce and communication are entirely appropriate for a nations capital.

¹³ *Appendix to the Mason's Pocket Companion*, Edinburgh, 1761, p.42.

¹⁴ Who throughout his 38 year reign built continuously the Temples of Ankor Thom, Ta Prohm, Bantei Kidei, Neak Pean, Ta Sohm, Srah Srang, Krol Kro, Prah Palilay, Prasat Suor Prat, Prah Khan, Bayon.

¹⁵ Engineer Robert Bauval in his well written *The Orion Mystery* states that the people who built the pyramids at Giza were "magicians who knew their symbols- and that with the right symbols, with the right questions- they can lead you into initiating yourself. Provided, that is, you are a person who asks questions. And, if you are, then the minute you start asking questions about the pyramids you begin to stumble into a whole series of answers which lead you to other questions, and then more answers until you finally initiate yourself... They were magicians because they knew the power of ideas..they knew how to set ideas growing and developing in people's minds..." Bauval asserts that the Giza necropolis was built to provoke questions, "The minute you ask a question about engineering, you've asked a question about geometry, you've asked a question about astronomy. It forces you to learn about engineering, geometry and astronomy, and gradually you learn how sophisticated it is, how incredibly clever and skillful and knowledgeable its builders must have been, which forces you to ask questions about mankind, about human history, eventually about yourself too. You want to find out. This is the power of the thing."

Further Suggested Reading

A Beginners Guide to Constructing the Universe by Michael S. Schneider

Heaven's Mirror by Graham Hancock & Santha Faiia

Sacred Architecture by A.T. Mann

Sacred Geometry, philosophy & practise by Robert Lawlor

Sacred Geometry by Nigel Pennick

Sacred Geography of the Ancient Greeks by Jean Richer

Serpent in the Sky by John Anthony West

The Art and Architecture of Freemasonry by James Steven Curl

The Secret Language of the Stars and Planets by G. Cornelius & P. Devereux

The Orion Mystery by Robert Bauval & Adrian Gilbert

The Secret Zodiacs of Washington DC- Was the City of Stars Planned by Masons? by David Ovason

The Mysteries of Chartres Cathedral by Louis Charpentier

The Byrom Collection- Renaissance Thought, The Royal Society and the Building of the Globe

Theatre by Joy Hancox.

The Temple of Man by Schwaller de Lubicz

The Vitruvian man, composition
by Leonardo da Vinci. Man is the
measure of all things. The circle

represents the divine, the square
symbolic of the earth or material
world.

