

A View of  
**CONTEMPLATIVE GEOMETRY IN FREEMASONRY**  
by Lee Miller - 2002

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Part III

*Fra Luca Pacioli and Others . . .*

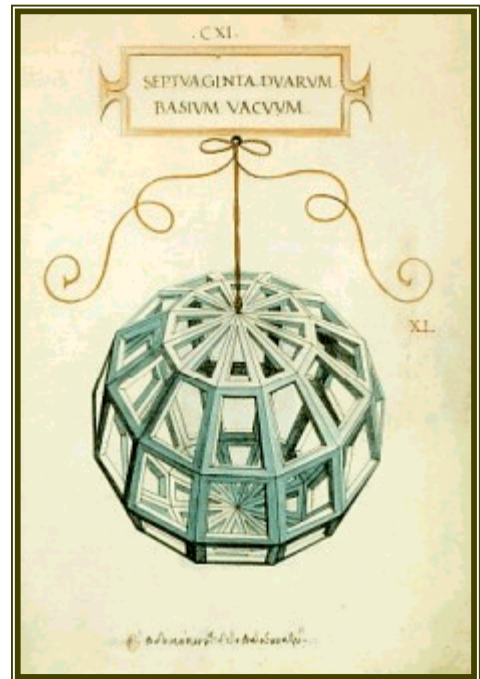
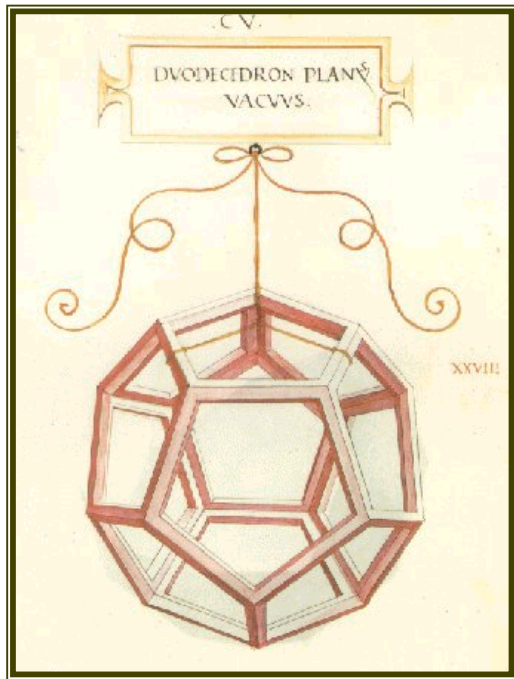


Freemasonry is long on ritual, history and tradition but is unfortunately very short on footnotes. Regarding its basis, 'Geometry,' we can find mentions of Euclid and Platonic Solids, but little more that would lead us to a specific person, book or similar source. One may only guess at the sources the earlier ritual writers had in hand when they compiled their Work. Many are the speculations as where to for look clues of such sources: shall we look to the Grailists, the Cabalists [old tradition], the Kabbalists [newer tradition], Alchemists, Rosicrucians, Templars? Perhaps a combination of some of these might work or perhaps another not included in these?

I shall make no attempt to further muddy these already muddy waters; books abound for any of the above for those who would wish to review or research them. I shall, instead, attempt to keep somewhere near to what he have at hand in the early and present Workings of the Craft, which are, again, its *basis* [geometry], Euclid and the Platonic Solids.

Every good story tends to have a beginning, a middle and an end; Freemasonry tends to have a very large middle, mysterious beginnings and hopefully a distant end. With this in mind, let's cheat a bit and start somewhere near the middle of the middle with Fra Luca Pacioli [who does not appear in our ritual].

It would be reasonable to assume that Pacioli is not a name that is familiar to many, but yet he is . . . if I were to state that he had a roommate and 'student' by the name of Leonardo da Vinci, who also happened to do some fine illustrations for Pacioli's book, *Divina Proportione* [1509].



I would not normally include anecdotal history in a discussion such as this, but it helps to illustrate a larger picture of the [re]emergence, interest and spread of geometry in the period of history covered by the life of Pacioli [1445-1517] and Renaissance Period in general.

“Although we know little of Pacioli's early life, the conjecture that he may have received at least a part of his education in the studio of della Francesca in Sansepolcro must at least have a strong chance of being correct. One reason that this seems likely to be true is the extensive knowledge that Pacioli had of the work of Piero della Francesca and Pacioli's writings were very strongly influenced by those of Piero.”

“In 1482 Leonardo da Vinci entered the service of Ludovico Maria Sforza [1451-1508] as a court painter and engineer. In 1494 Ludovico became the duke of Milan and, around 1496, Pacioli was invited by Ludovico to go to Milan to teach mathematics at his court. This invitation may have been made at the prompting of Leonardo da Vinci, who had an enthusiastic interest in mathematics.

At Milan Pacioli and Leonardo quickly became close friends. Mathematics and art were topics which they discussed at length, both gaining greatly from the other. At this time Pacioli began work on the second of his two famous works, *Divina proportione* and the figures for the text were drawn by Leonardo. Few mathematicians can have had a more talented illustrator for their book! The book which Pacioli worked on during 1497 would eventually form the first of three books which he published in 1509 under the title *Divina proportione*.” In this same year he also published a Latin translation of Euclid's *Elements*.

“Louis XII became king of France in 1498 and, being a descendant of the first duke of Milan, he claimed the duchy. Venice supported Louis against Milan and in 1499 the French armies entered Milan. In the following year Ludovico Sforza was captured when he attempted to retake the city. Pacioli and Leonardo fled together in December 1499, three months after the French captured Milan. They stopped first at Mantua, where they were the guests of Marchioness Isabella d'Este [1474-1539; the sister-in-law of Ludovico], and then in March 1500 they continued to Venice. From Venice they returned to Florence, where Pacioli and Leonardo shared a house.”

In his lifetime, Pacioli wrote or taught:

1470 – his first work, in Venice, a book on arithmetic.

1477-80 – taught at the University of Perugia; wrote a second work on arithmetic.

Taught at Zara [Zadar or Jadar or Jadera in Croatia] & wrote a third book on arithmetic.

Taught again at Perugia, then at the Universities of Naples and at Rome.

1489 – returned to his home in Sansepolcro where he worked on one of his most famous books, the *Summa de arithmetica, geometria, proportioni et proportionalita*, which was published in 1494 in Venice.

1497-1509 – See above re: his works, *Divina proportione* and the Latin translation of Euclid's *Elements*.

Two very excellent, comprehensive websites may be reviewed for the history of:

- Mathematics: <http://www-groups.dcs.st-and.ac.uk/~history/index.html>  
or [http://www-groups.dcs.st-and.ac.uk/~history/Indexes/Hist\\_Topics\\_alph.html](http://www-groups.dcs.st-and.ac.uk/~history/Indexes/Hist_Topics_alph.html)
- Polyhedra: <http://www.georgehart.com/>  
or <http://www.georgehart.com/virtual-polyhedra/articles.html>

The above information on Fra Luca Pacioli is from the former, the painting is from the latter, but both give extensive historic, biographic and graphic information to include Pythagoras, Euclid, Plato, Decartes, Kepler, Newton and numerous others who bear upon the *basis of Freemasonry . . . geometry*. The reader is gently invited to especially view some the numerous and interesting animated graphics of George W. Hart, such as:

[http://www.georgehart.com/virtual-polyhedra/vrml/platonics\\_spin.wrl](http://www.georgehart.com/virtual-polyhedra/vrml/platonics_spin.wrl)

[http://www.georgehart.com/virtual-polyhedra/vrml/icosahedron\\_in\\_octahedron.wrl](http://www.georgehart.com/virtual-polyhedra/vrml/icosahedron_in_octahedron.wrl)

[http://www.georgehart.com/virtual-polyhedra/vrml/cubes\\_S4\\_D4.wrl](http://www.georgehart.com/virtual-polyhedra/vrml/cubes_S4_D4.wrl)

On these above graphic displays you will find a control panel beneath them; feel free to use your cursor or arrow keys to rotate, enlarge or reduce the forms to view them in various modes. A 'help' page, explaining the control panel is available at the '?' button.

For an architectural perspective of Vitruvius and Pacioli and others, see also:

<http://www.nexusjournal.com/Frings.html>

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The specific contributors or sources to the ritual of FM will perhaps remain one of the eternal mysteries of the Craft, excepting the references to Euclid, but a review of the revival of Euclid and of those who furthered the sciences from the period 1390 [the Regius MS.] thru at least Preston's time, will reveal something of the message which may be revealed through the science *and philosophy* of geometry. I have read, researched and contemplated extensively of many related and speculative matters relating to this, as many of us have, and as I would not necessarily expect that ALL should do. I would not state that the internet is the end-all for the diligent seeker, but it is coming forward each day with more information which could be of more or further assistance in the search for Light.

Having given a small account of the background of geometry, in the context of Freemasonry, Part IV will discuss some of what has already been said with what some of the implications of this may be concerning our "system of morality, veiled in allegory and illustrated by symbols."

#### Part IV

### *From a Point to a Line to a Superfices to a Solid*

