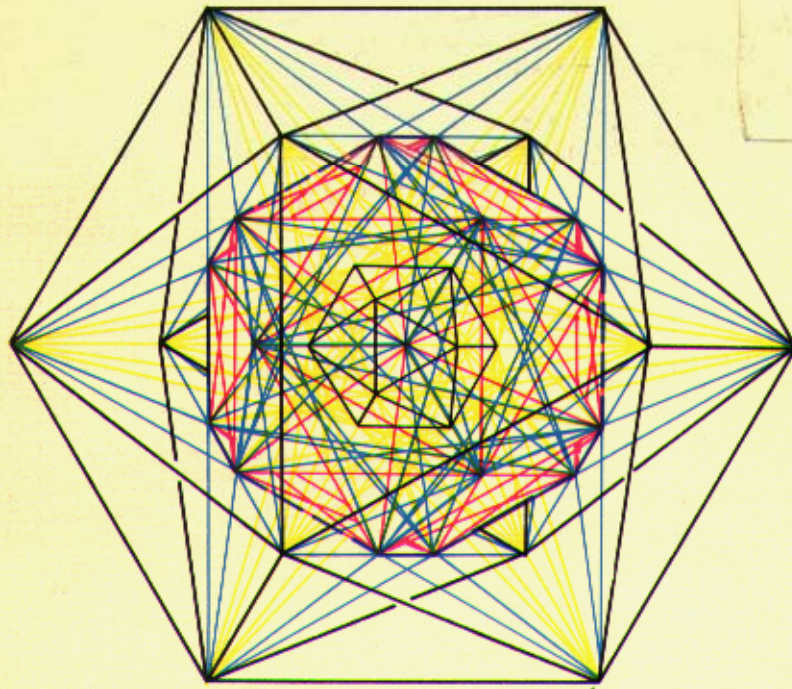


By The Holy
Tetraktys!

**SYMBOL AND REALITY
IN MAN AND UNIVERSE**

L. GORDON PLUMMER



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ADDENDUM

HOW THE FIGURES WERE CONSTRUCTED

Before closing this treatise it might be helpful to describe the steps taken in constructing the Lesser and Greater Mazes.

A rigid form had first to be built upon which the colored threads were to be fastened. Two of these forms were made, since they are identical in each Maze. These were of small gauge wooden rods painted light blue, and were (in fact are) stellated Dodecahedrons. This means that each edge of the Dodecahedron was extended in both directions until they met in groups of 5 at points above the faces of the Dodecahedron. Thus we have 30 rods meeting in 12 points. These points later became the vertices of the surrounding Icosahedron. This step was delayed until the end because for both Mazes space was needed for my fingers in order to apply the threads.

The Lesser Maze

12 bright yellow threads were inserted to form the Octahedron. This was done by fastening one end of a thread to one of the outer points of the stellated Dodecahedron, and the other end was fastened inside the Dodecahedron to an inner vertex of the Dodecahedron itself. The selection of the right point need not be explained here in order to avoid rather tedious descriptions. It is necessary only to say that these 12 lines occupy all the points of the Dodecahedron itself. These lines are shown in the Frontispiece. The intersections of these yellow lines define the edges of the Octahedron. The inner Icosahedron in white lines shows a remarkable

relationship to the Octahedron in that the 12 vertices of the inner Icosahedron touch the 12 edges of the Dodecahedron at the points of the Golden Section.

It will be seen that there are now 8 points as yet unoccupied in the Dodecahedron, and they are so placed that by joining them with red lines (one line across each face of the Dodecahedron) they combine to form a Cube.

It now remains to make the pair of interlacing Tetrahedra, using green thread. This is done simply by placing the threads as diagonals across each face of the Cube.

The final step is to join with white lines (rods of wood painted white were used in constructing the Icosahedron); 30 of these rods were used. The Lesser Maze is now complete.

Several interesting things may now be discovered. (Since the drawings contain all these features, an examination of the Cover will make them clear). The midpoint of each face of the Cube is the intersection of several lines, to wit: 4 yellow lines from the Octahedron, and the crossing of 2 green lines of the interlacing Tetrahedra.

The measurements are interesting. Taking the edge of the Cube as 1.000, the edge of the Dodecahedron is equal to .618, and the edge of the Icosahedron is 1.618. Here we have three terms of the Golden Section series. The edge of the interlacing Tetrahedron is the square root of 2, and that of the Octahedron is one half of the square root of 2. This appears to be a departure from the Golden Section, but when the Greater Maze is constructed, we shall discover that there is in reality no break at all in this wonderful sequence of proportions.

The Greater Maze

As before, we have the firm structure, the stellated

Dodecahedron; and as before, we shall leave the formation of the outer Icosahedron until the final step. The term *outer* Icosahedron applies here because as before we now construct an *inner* Icosahedron. This is accomplished by joining internally all the points of the Dodecahedron except the diameters. White thread was used, and the resultant figure is an Icosahedron with all its faces parallel to the faces of the outer Icosahedron. Theoretically we might continue to construct Icosahedra and Dodecahedra indefinitely and we should never reach the center of the figure. Having constructed this inner one, as just explained, will be sufficient.

We shall apply the yellow strings, and they will radiate from each point of the stellated Dodecahedron in groups of 5, and the other ends will be fastened to each of the 5 points of a pentagon which is a distant face of the Dodecahedron. When all these yellow threads have been thus installed we shall find that there is a figure of great beauty.

One remarkable point to observe is that the yellow threads come together in 12 places, just where the 12 vertices of the *inner* Icosahedron will be seen. The edges of the 5 Octahedra intersect each other at their points of the Golden Section. An interesting result is the direct continuance of the Golden Section pattern established in the Lesser Maze. The three numerical terms of the series have now a fourth added, and if we were able to continue constructing these figures indefinitely, we would find the following:

The terms inner Icosahedron, inner Dodecahedron, inner Cube, and so on, tell us what their edges would be if constructed. We have then:

Outer Icosahedron, 1.618; Cube, 1.000; Dodecahedron, .618; inner Icosahedron, .382; Inner Cube, .236; Inner Dodecahedron, .1458; and so it would go on in-

definitely.

If we were to extend the edges of the outer Icosahedron until they meet in groups of three above each face, we would then have 20 points, which, if joined, would form a larger Dodecahedron, with a length of 2.618, and we could build a larger Greater Maze within this, and so on, and we would find that the Golden Section would continue on forever outwards as well as inwards.

It should be remembered that in constructing the inner Icosahedron we joined with white threads the points of the Dodecahedron. It was now desirable to remove those portions of the threads that served only to construct the inner Icosahedron. This was done first by taking white threads and tying the points of the inner Icosahedron to the intersections of the yellow threads of the 5 Octahedra. Some inaccuracies were inevitable, as it was necessary to bring everything to fine points. While these threads were being tied, white glue was used to hold them in position. After the glue had set, small scissors were used to trim off the portions of white thread that extended from the Dodecahedron to the yellow threads. Great care was used so that no needed threads were severed. The result was that the inner Icosahedron appears suspended in space within the 5 Octahedra, a truly beautiful sight.

We are now ready to understand how the 5 Cubes are built into the Greater Maze. It was shown that in the Lesser Maze there is 1 Cube, and that its 12 edges cross all 12 faces of the Dodecahedron. Obviously 5 Cubes would have 5 lines on each face of the Dodecahedron. Since these faces are regular Pentagons, it is only natural that we have constructed a five-pointed star on each of the 12 faces.

Placing the Cubes is a relatively simple task. One interesting point will be discovered immediately. First of all, the five red threads intersect at the points of the Golden Section. Secondly, it is just where these red lines intersect that the yellow lines from each point of the Icosahedron enter the faces of the Dodecahedron and pass on to its interior to form the 5 Octahedra. It now remains to place the green threads as the diagonals of every face of all 5 Cubes, and the result will be 5 pairs of interlacing Tetrahedra with, of course, the 5 Octahedra in yellow lines within the Tetrahedra.

The next step was to gather all the threads now placed in the figure and tie them into neat points, and then, because many threads were tied to the points of the Dodecahedron, blue paint was used to color these points up to the tied colored threads. This greatly enhanced the appearance of the Greater Maze.

The final step was to place the white edges (wooden rods) of the outer Icosahedron. This gave a complete appearance which immediately brought out the beauty of the figure. A string was fastened to one of the points of the Dodecahedron by which to hang the Greater Maze, and then the Maze can be set spinning, a sight truly impressive. One feels he has in his very hands a symbol of the Universe itself; and, with the interpretations of that symbol, a philosophy that reveals the relationship of all life to the Universe itself and to all parts of it. Separateness is an illusion. At heart we are One, and that one-ness is itself ***THE BOUNDLESS***.