# WASHINGTON D. C. GEOMETRY

When the site for Washington D.C. was chosen to be the national capital of the United States, it was an undeveloped area. George Washington selected Pierre L'enfant to design the layout of the city. George Washington was the highest ranking member of the Masons at the time and the Masons were ardent students of ancient civilizations such as those of the ancient Egyptians and Greeks. This is evidenced by many of the monuments in and around the city. It has also been suggested that the streets, the broad diagonal avenues, and the blocks and circles left open for monumental structures, incorporated geometric designs of Masonic relevance, as shown in the 1862 map of Washington D.C. pictured below.
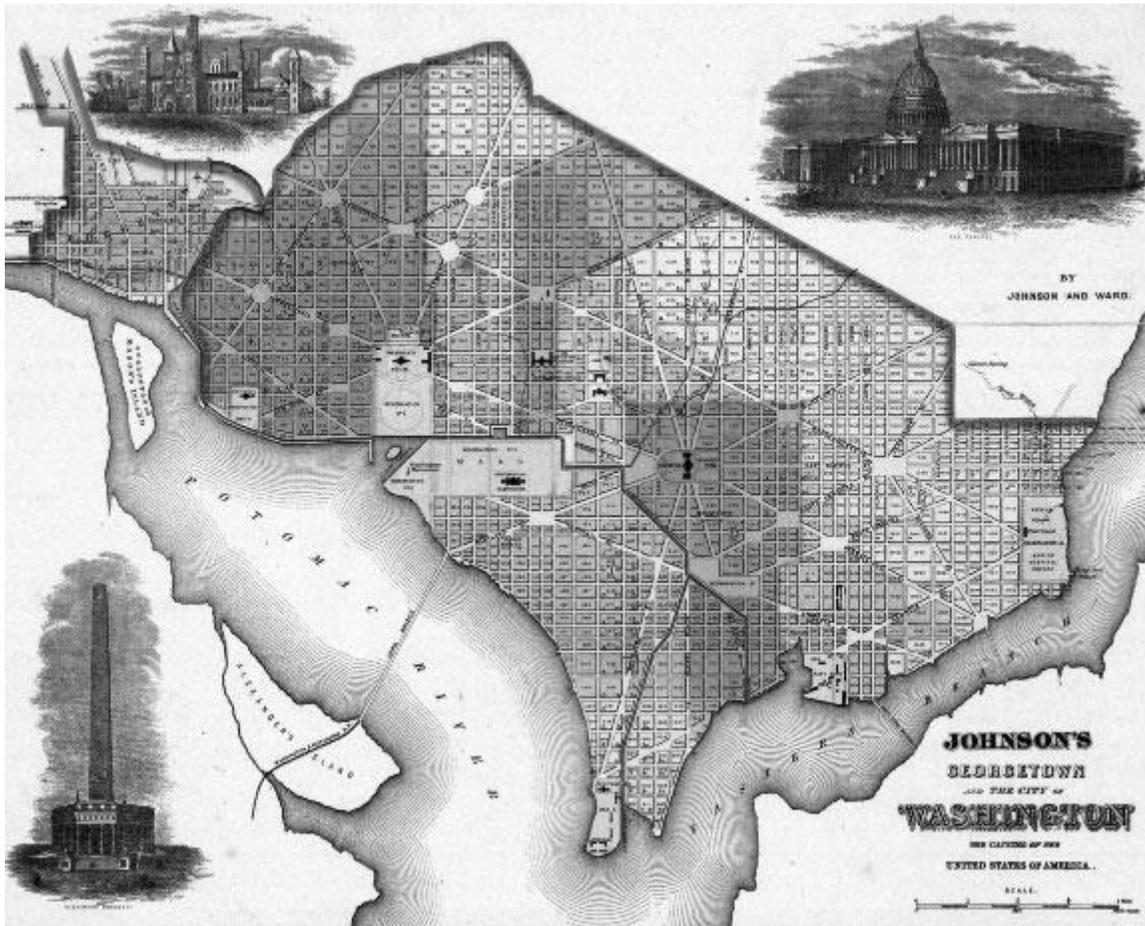

*Johnson's Georgetown and the city of Washington*

The island known today as Roosevelt Island (due west of the White House in the middle of the Potomac) was called Mason's Island until early in the 20th century. George Mason originally owned the island and he built a bridge from the Virginia side. He had a large retreat house on the island where he entertained friends and guests. George Washington was a neighbor and very good friend of George Mason. Mason was the author of the Virginia Bill of Rights, which became the U. S. Bill of Rights when it was added as the first ten amendments to the constitution of the U.S. There is some evidence that George Mason was a Mason, but it is not certain. Extending New Hampshire Avenue to the southwest, into the Potomac, it crosses over the

southern tip of Mason's Island. The Masonic Headquarters of the Scottish Rites of the 33rd degree is just south of the point where New Hampshire Avenue crosses 16th Street, due north of the White House.

Highlighted below are Massachusetts and Connecticut Avenues radiating from the upper left circle, Rhode Island and Vermont Avenues radiating from the upper right circle, and the horizontal street is K street. The White House is located at the apex of the pentagram.
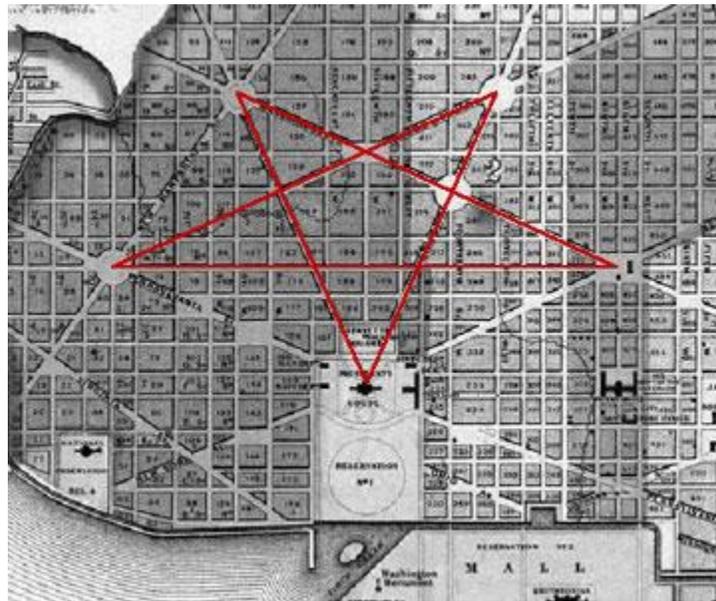

Highlighted below are Massachusetts Avenue and 19th Street radiating from the upper left circle, Rhode Island Avenue and 13th Street from the upper right circle, New York Avenue and 19th Street from the lower left square and Pennsylvania Avenue and 13th Street from the lower right square. The White House is located at the lower intersection point of the two large triangles that form the Hexagram.
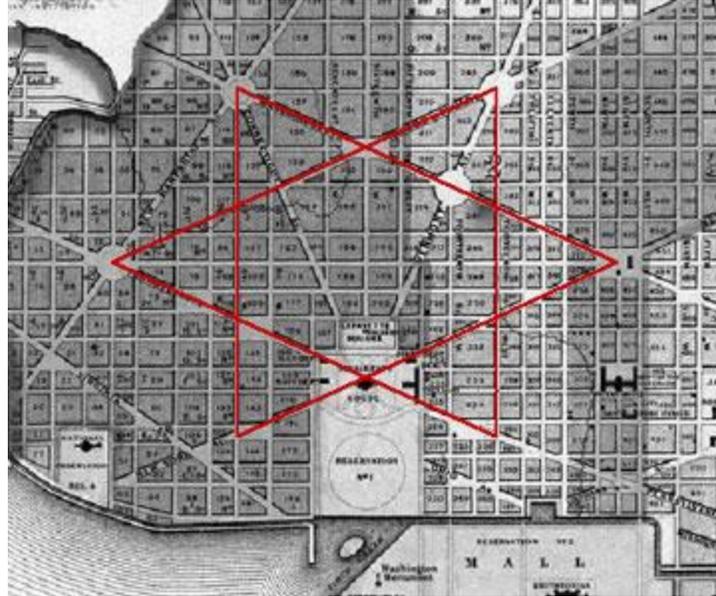
The pentagram and the hexagram are perfectly integrated with the White House in the layout of Washington D.C.
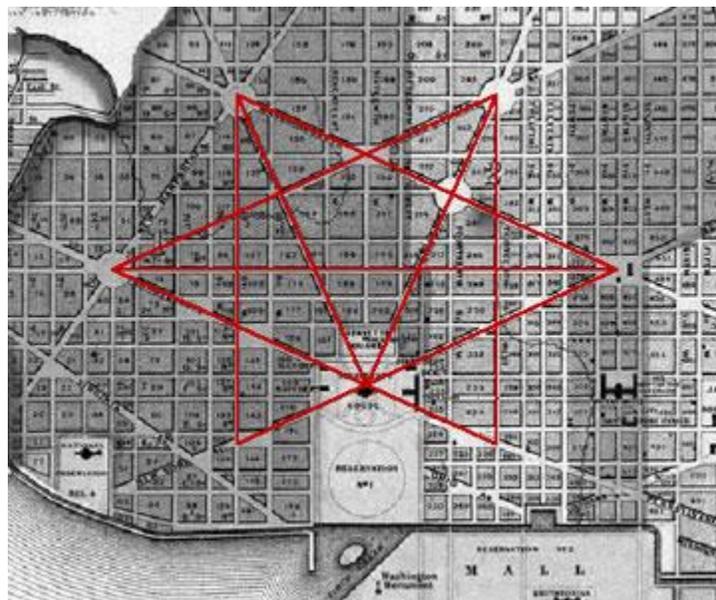
Below is a diagram of a pentagram drawn into a true hexagram. Each of the six lines that form the hexagram are three inches long and each of the short segments of the hexagram are one inch long.
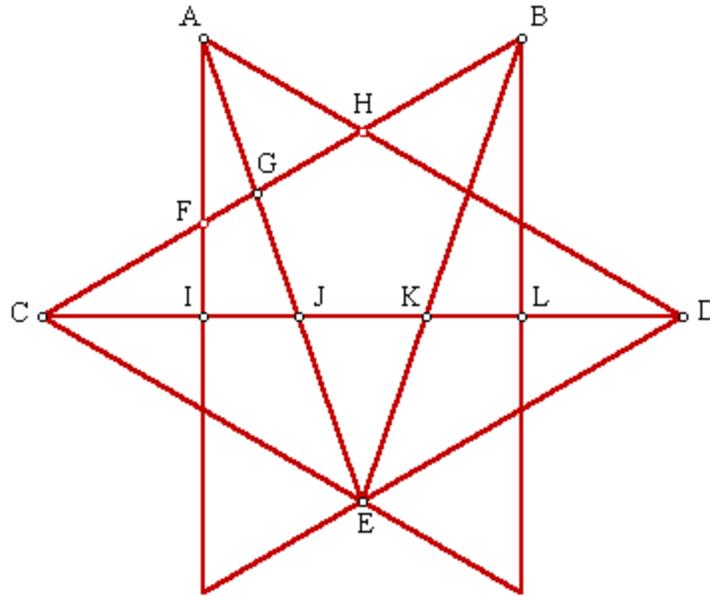
AH = 1.000 inches = √1
AB = 1.732 inches = √3
HD = 2.000 inches = √4
AE = 2.646 inches = √7
AD = 3.000 inches = √9
CD = 3.464 inches = √12

FH = 1.000 inches
FG = 0.$\overline{333}$ inches
GH = 0.$\overline{666}$ inches

AG = 0.882 inches
GJ = 0.706 inches
JE = 1.058 inches

CI = 0.866 inches
IJ = 0.520 inches
JK = 0.693 inches

One is also the square root of one and three is the square root of nine. The distance between the adjacent outer points of the hexagram is 1.732 inches (AB, AC, BD, etc.) 1.732 is the square root of three. HD and all of the other segments that are comprised two of the short segments of the hexagram are two inches long. The distance HE is also two inches long. Two is the square root of four. The two diagonal lines of the pentagram (AE and BE) are 2.646 inches long. 2.646 is the square root of seven. The horizontal line of the pentagram (CD) is 3.464 inches long. 3.464 is the square root of 12.

The segment FH in the hexagram is bisected at G by the line AE of the pentagram. The proportion FG : GH is 1 : 2. The proportions of the segments in the entire line CB are as follows:

CF : FG : GH : HB = 3 : 1 : 2 : 3

The proportions of the line AE as bisected by the lines of the hexagram and the pentagram are as follows:

AG : GJ : JE : = 5 : 4 : 6

The proportions of the line CD as bisected by the lines of the hexagram and the pentagram are as follows:

CI : IJ : JK: KL : LD = 5 : 3 : 4 : 3 : 5

In the diagram below, points J and K from the diagram above are the centers and the segment JK is the radius of two circles, forming a vesica pisces that is perfectly inscribed by the four diagonal lines of the hexagram.
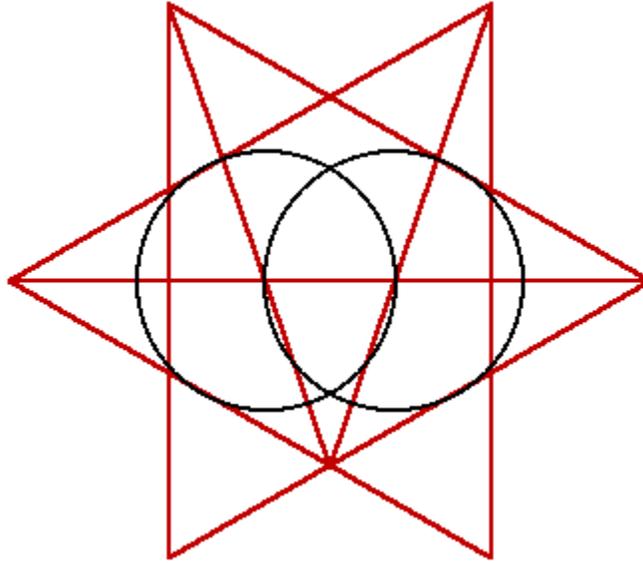
The intersection point of the two circles (M) and the two intersection points of the hexagram diagramed below (N and O) form a triangle with angular dimensions nearly identical to the Great Pyramid of Giza.
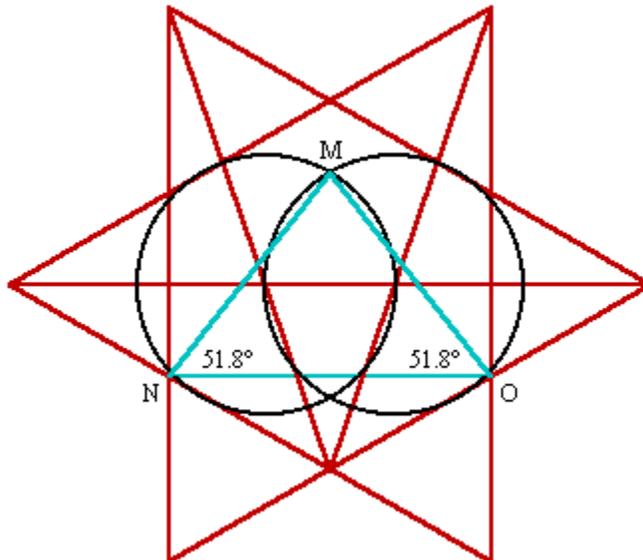
In the diagram below, a hexagram is drawn into a true pentagram. All five of the lines that form the pentagram are 1.618 inches long. The distance between all of the adjacent outer points of the pentagram, and all of the adjacent outer points of the hexagram, is one inch. The φ proportion is 1.618 to one.
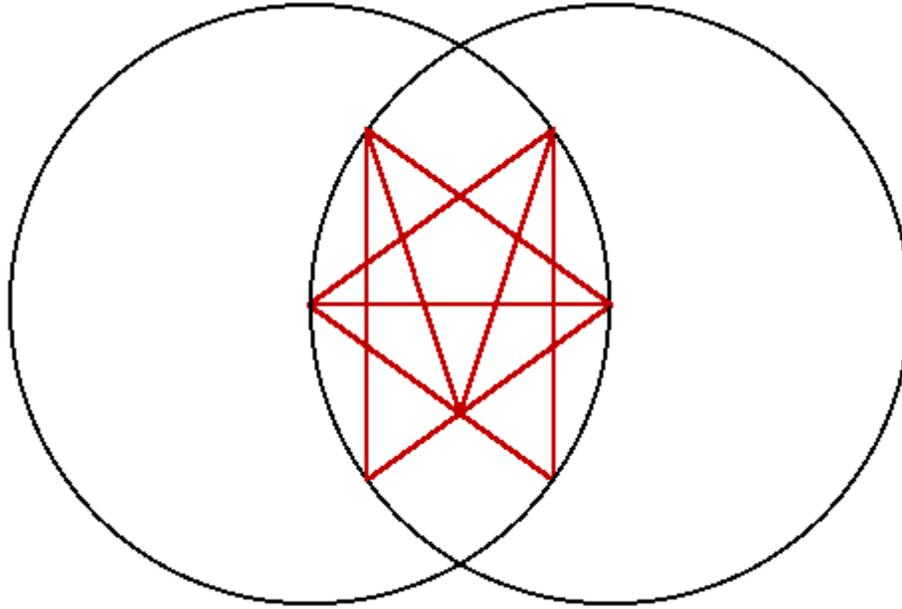
All of the lines of the pentagram are divided into three segments by the other lines of the pentagram. Each line is divided as follows:

.618 : .372 : .618

.618 /.372 = 1.618

.618 + .372 = 1

1/.618 also equals 1.618

The length of the vertical lines in the hexagram are 1.902 inches long. The vertical lines are divided by the intersections of the diagonal lines as follows:

.7265 : .449 : .7265

.7265/.449 = 1.618

.7265 + .449 = 1.1755

1.1755/.7265 also equals 1.618.

All of the isosceles triangles in the hexagram have an apex angle of 72° and base angles of 54°. Bisecting these isosceles triangles forms 36° - 54° - 90° right triangles. This particular right triangle was an important geometric form known as the mr triangle in ancient Egypt.

As shown in the diagram above, all six of the outer points of the hexagram are perfectly inscribed by a vesica pisces.

The pentagram and the hexagram are also combined in the Great Seal of the United States, displayed on the back of one dollar bills.

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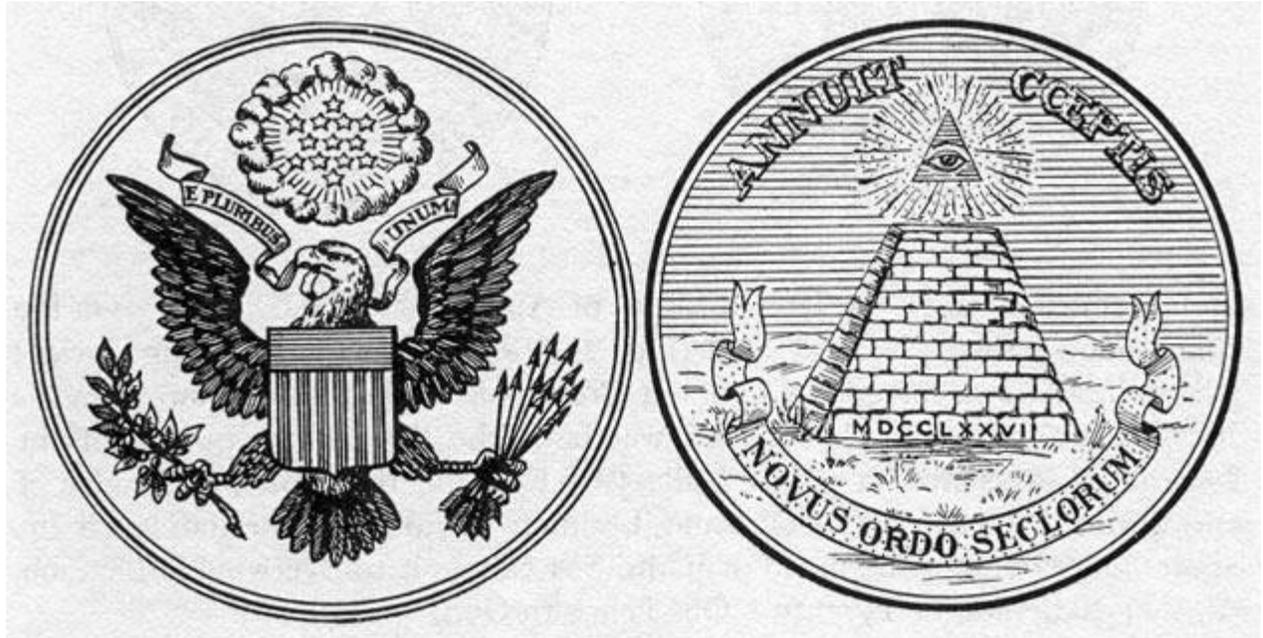
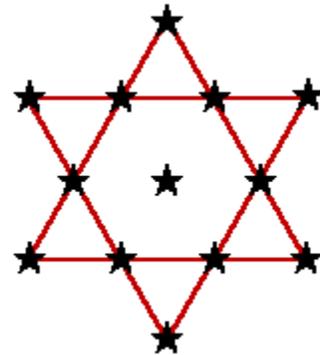The traditional explanation of the 13 stars is the same as the 13 arrows and the 13 leaves and berries on the olive branch, representing the 13 original states, but the arrangement of the 13 five pointed stars forms a hexagram.

The truncated pyramid below the eye on the reverse side of the Great Seal is also comprised of 13 courses of masonry. A 13 stepped truncated pyramid is also on top of the Masonic headquarters on 16th Street in Washington D.C.
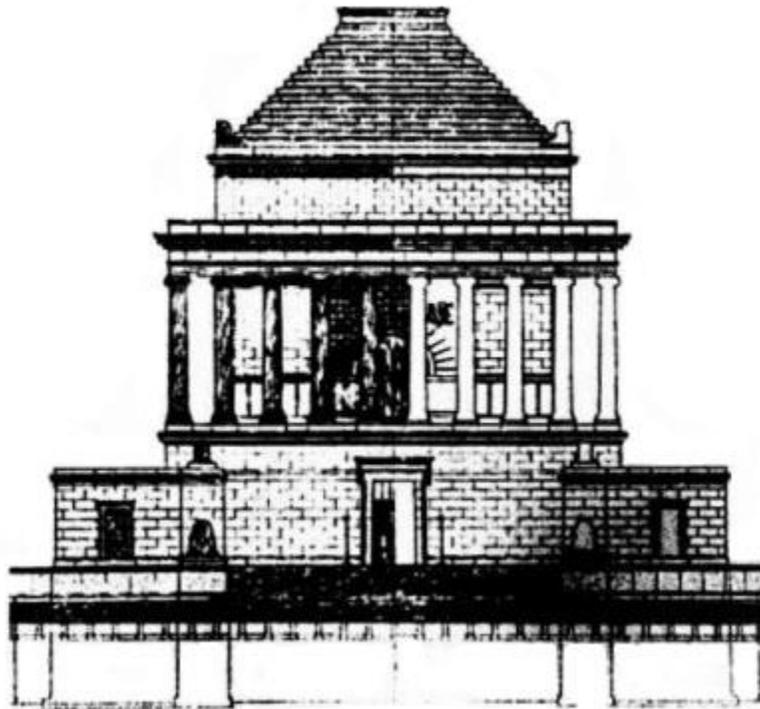
The boundaries of the District of Columbia, established by George Washington in 1791, formed a square with sides ten miles long, centered on the originally proposed location for the Washington Monument. The east-west diagonal of the square also crosses over the Capitol building and the north-south diagonal also crosses over the White House as well as the Masonic headquarters.
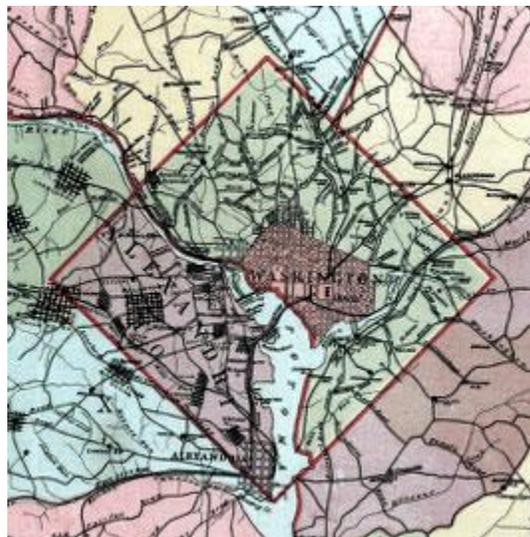
James Clements' map of Washington City

The length of the north-south and east-west diagonals is ten miles times the square root of two, or 14.142 miles. This distance converts to 43,455 ancient Egyptian royal cubits, the same figure as the ratio between the Great Pyramid and the dimensions of the earth. The height of the Great Pyramid is 481.13 feet, divided by 5280 equals .0911231 miles. The mean radius of the earth is 3,960 miles, divided by .0911231 equals 43,457. The perimeter of the Great Pyramid is 3023 feet, divided by 5280 equals .5725 miles. The mean circumference of the earth is 24,880 miles, divided by .5725 = 43,458.

3960 miles (radius of the earth) divided by 14.142 miles = 280 (number of cubits in the height of the Great Pyramid)

24,880 miles (circumference of the earth) divided by 14.142 miles = 1,760 (cubits in the perimeter of the Great Pyramid)

Converting the radius and circumference of the earth to cubits yields the same results:

3,960 miles times 5,280 = 20,908,800 feet divided by 1.718 = 12,170,430 (earth radius in ancient Egyptian cubits)

12,170,430 cubits divided by 43,455 cubits = 280 cubits

24,880 miles times 5,280 = 131,366,400 feet divided by 1.718 = 76,464,726 (circumference in ancient Egyptian cubits)

76,464,726 cubits divided by 43,455 cubits = 1,760 cubits

Since long before *The Lost Symbol,* Freemasons have been accused of everything from conspiring with extraterrestrials to practicing sexual deviancy to engaging in occult rituals to running the world—or trying to end it. Detractors include global conspiracy theorists and religious organizations, including the Catholic Church.

Released today, *The Lost Symbol* isn't likely to squelch any rumors, beginning as it does with a wine-filled skull, bejeweled power brokers, and a dark Masonic temple steps away from the White House.

But what if Freemasons—the world's largest international secret society—are just a bunch of guys into socializing, non-satanic rituals, self-improvement, and community service?

To separate Freemason fact from *Lost Symbol*-style myth, National Geographic News went inside the centuries-old order with two Masons and a historian of the ancient Christian order from which some claim the Masons sprang in the 17th or 18th century.

FREEMASON MYTH 1
Masonic Symbols Are Everywhere

It's true that Masonic symbols are anything but lost, said Freemason and historian Jay Kinney, author of the newly released *Masonic Myth.*

(See *"LOST SYMBOL* PICTURES: Masonic Symbols Decoded.")

Freemasonry is rich in symbols, and many are ubiquitious—think of the pentagram, or five-pointed star, or the "all-seeing eye" in the Great Seal of the United States.

But most Masonic symbols aren't unique to Freemasonry, Kinney said.

"I view the Masonic use of symbols as a grab bag taken from here, there, and everywhere," he said. "Masonry employs them in its own fashion."

The pentagram, for example, is much older than Freemasonry and acquired its occult overtones only in the 19th and 20th centuries, hundreds of years after the Masons had adopted the symbol.

Likewise, the all-seeing eye saw its way to the Great Seal—and the U.S. dollar bill—by way of artist Pierre Du Simitiere, a non-Mason.

The eye represents divine guidance of the U.S. ship of state, or as Secretary of the U.S. Congress Charles Thompson put it in 1782, it alludes "to the many signal interpositions of providence in favour of the American cause."

There was one known Mason on the committee to design the seal, Benjamin Franklin. His proposed design was eyeless, and rejected.

FREEMASON MYTH 2
Masons Descend From the Knights Templar

Much has been made of the Freemasons purported lineage to the Knights Templar. The powerful military and religious order was established to protect medieval pilgrims to the Holy Land and dissolved by Pope Clement V, under pressure of King Phillip IV of France, in 1312.

After modern Masonry appeared in the 17th- or 18th-century Britain, some Freemasons claimed to have acquired the secrets of the Templars and adopted Templar symbols and terminology—naming certain levels of Masonic hierarchy after Templar "degrees," for example.

"But those [Knights Templar] degrees and Masonic orders had no historic connection with the original Knights Templar," Kinney explained.

"These are myths or symbolic figures that were used by the Masons. But because the association had been made with these degrees, and the degrees had perpetuated themselves, after a time it began to look like there had been a connection."

Helen Nicholson, author of *The Knights Templar: A New History,* agrees that there is no possibility that Freemasons are somehow descended from the Knights Templar.

By the time of the first Masons, the Cardiff University historian said, "there were no more Templars."

FREEMASON MYTH 3
Masons Are Hiding Templar Treasure

One of the Templar-Mason theory's many veins suggests that some Templars survived the order's 14th-century destruction by taking refuge in Scotland, where they hid a fabulous treasure beneath Rosslyn Chapel (as seen in *The Da Vinci Code*).

The treasure, and the Templar tradition, were eventually passed down to the founders of Freemasonry, the story goes.

In fact, there *was* Templar treasure, Nicholson said, but it ended up in other hands long ago.

"The most likely reason [the Templars were dissolved] is that the king wanted their money. The King of France was bankrupt, and the Templars had lots of ready cash."

FREEMASON MYTH 4
Washington, D.C.'s Streets Form Giant Masonic Symbols

It's long been suggested that powerful Freemasons embedded Masonic symbols in the Washington, D.C., street plan designed mainly by Frenchman Pierre L'Enfant in 1791.

The Lost Symbol is expected to prominently feature "Masonic mapping," detecting pentagrams and other symbols by connecting the dots among landmarks. Pre-release clues released by author Dan Brown, for example, include GPS coordinates for Washington landmarks.

"Individually, Masons had a role in building the White House, in building and designing Washington, D.C.," said Mark Tabbert, director of collections at the George Washington Masonic Memorial in Alexandria, Virginia. "And [small scale] Masonic symbols can be found throughout the city, as they can in most U.S. cities."

But there's no Masonic message in the city's street plan, Tabbert said. For starters, Pierre L'Enfant wasn't a Mason.

And, Tabbert asked, why would Masons go to the trouble of laying out a street grid to match their symbols?

"There has to be a [reason] for doing such a thing," said Tabbert, himself a Mason. "Dan Brown will find one, because he writes fiction. But there isn't one."

FREEMASON MYTH 5
Freemasons Rule the World

Maybe it's the impressive list of prominent Freemasons—from Napoleon to F.D.R. to King Kamehameha (IV and V!)—that's led some to suggest the group is a small cabal running the globe. But Kinney, the Masonic historian, paints a picture of a largely decentralized group that might have trouble running anything with much efficiency.

"I think the ideals that Masonry embodies, which have to do with universal brotherhood, are shared by Masons around the world [regardless of] religious, political, or national differences," he said.

"But having shared ideals is one thing—having some sort of shared hierarchy is something else altogether."

Kinney noted that the U.S. alone has 51 grand lodges, one for each state and the District of Columbia. Each of these largely independent organizations oversees its many local blue (or beginner) lodges and has little real coordination with other grand lodges.

Internationally, Masonic lodges not only don't speak with a single voice but sometimes refuse to even recognize each other's existence.

Also, many Masons are independent minded and tend to resist edicts from above, Kinney said. "There is no way that they could be run by a single hierarchy. There is no such entity."

FREEMASON MYTH 6
Freemasonry Is a Religion—Or a Cult

But Masons stress that their organization is not a religion, that is it has no unique theology and does not represent a path for believers to salvation or other divine rewards.

Even so, to be accepted into Freemasonry, initiates must believe in a god—any god. Christians may be in the majority, but Jews, Muslims, and others are well represented in Masonic circles. At lodge meetings religious discussion is traditionally taboo, Kinney and Tabbert said.

But some religious leaders believe that Masonic rituals and beliefs—with its temples, altars, and oaths— do constitute an opposing faith. And the Masonic refusal to rank one religion above the others hasn't always been popular.

A 1983 Catholic declaration approved by Pope John Paul II, for example, said that "Catholics enrolled in Masonic associations are involved in serious sin and may not approach Holy Communion."

FREEMASON MYTH 7
Freemasons Started the American Revolution

Prominent Freemasons like Ben Franklin and George Washington played essential roles in the American Revolution. And among the ranks of Freemasons are 9 signers of the Declaration of Independence and 13 signers of the Constitution.

But Freemasonry—born in Britain, after all—had adherents on both sides of the conflict. Tabbert, of the George Washington Masonic Memorial, said Masonic groups allowed men on both sides of the revolution to come together as brothers—not to promote a political view, which would be against Masonic tradition.

"For many years [Masons] claimed in their own quasi-scholarship that all of these revolutionaries and Founding Fathers were Freemasons," Tabbert said. "A fair number of them were, but they weren't doing these things because they were Freemasons."

FREEMASON MYTH 8
Membership Requires Shadowy Connections

Contrary to *The Lost Symbol,* you don't have to drink wine from a skull to become a ranking Freemason. In fact, tradition dictates that Masons don't recruit members but simply accept those who approach them of their own free will.

When Freemasonry hit its peak in the U.S. during the late 1950s, Kinney, the Masonic historian, said, almost one of every ten eligible adult males was a member—a total of some four million and hardly a tiny elite.

Today membership numbers, like those of other fraternal organizations, have declined dramatically, and only about 1.5 million U.S. men are Masons.

But with *The Lost Symbol* already igniting interest in Freemasonry, Masonic centers are bracing for tourists—and maybe a few new recruits.