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- 4. Number Symbolism

Elementary number symbolism

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Number symbolism in the Old Testament

Pythagorean number symbolism

Modern number terminology

IN: GEOMETRY IN
ART & ARCHITECTURE



NUMBER SYMBOLISM

"But thou hast arranged all things by measure and number and weight."

Book of Wisdom of Solomon, from the OT Apocrypha., XI, 20.

Description and Requirements

The Book

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Elementary Number Symbolism

The Pythagoreans were not the only ones who gave symbolic meaning to numbers. According to Vincent Hopper, *"nothing in the history of number symbolism is so striking as the unanimity of all ages and climates in regard to the meanings of a few number symbols."* He refers to this as *elementary number symbolism*.

In addition, we'll include numbers from mythology, astrology, and the Old Testament, which is loaded with symbolic numbers. We'll cover the New Testament and Christian number symbolism in a later unit.

We'll be able to connect some of the numbers used symbolically to larger ideas, but others will seem completely arbitrary. For those, our only justification in mentioning them is their repeated use as art motifs, and whose recognition may help us to understand a work of art.

Numero Uno



HILDEGARD: *Man in Sapphire Blue*
Fox, p. 22

According to Hopper, the first advance towards counting is with the use of words for *one* and for *many*, the differentiation from the self from the group. We still say *numero uno* to speak of ourselves.

One - the first - the greatest - the beginning - is usually identified with the Creator. *In the beginning God created . . .*, so in the beginning there was only **one**.

Two & Duality



Slide 4-3: Janus
Cayley. *Classical Myths in English Literature*. Boston: Ginn 1893 p. 89

The number *two* appears to always have carried with it the idea of duality, of opposites and mutual antithesis, as we've seen with the Pythagoreans. Here is the Greek god Janus, for whom January is named. He sees both ways, both inwards and outwards, and has the wisdom of both past and future.



Slide 4-4: DÜRER: *Adam and Eve*
 Dürer, Albrecht. *The Complete Engravings, Etchings and Drypoints*. Ed. By Walter Strauss. NY: Dover, 1972.

Aristotle said, "*most human things go in pairs*." We have many sets of dualities, like night and day, hot, cold, etc. and especially male, female.

sun	moon
light	darkness
heat	cold
fire	water
day	night
active	passive
male	female

Yin and Yang

The Chinese believed that heaven and earth produced everything by the interaction of opposites called *Yang and Yin*, the masculine *Yang* and the feminine *Yin*, just as offspring are the result of the interaction of a male and a female parent.

Famous Trios

Three represents the *triad* of family; male, female, and child; beginning, middle, and end; birth, life, and death.

Of two things we say *both*; of three things we say *all*.

Hopper writes that a single occurrence is of no statistical significance, a second occurrence might be just coincidence, but a third occurrence gives the event the impress of law, thus the Gypsy belief that if a dream comes three times it is certain to be true.

Egyptian Sun Gods

**Slide 4-7: Egyptian Deities**

New International Encyclopedia. NY:
Dodd, 1917. Volume 7, p. 529

Three became the most universal number of deity, like the Holy Trinity that we'll cover in a later unit. There were three primary gods of Babylon *Anu*, *Bel*, and *Ea* representing heaven, earth, and the abyss.

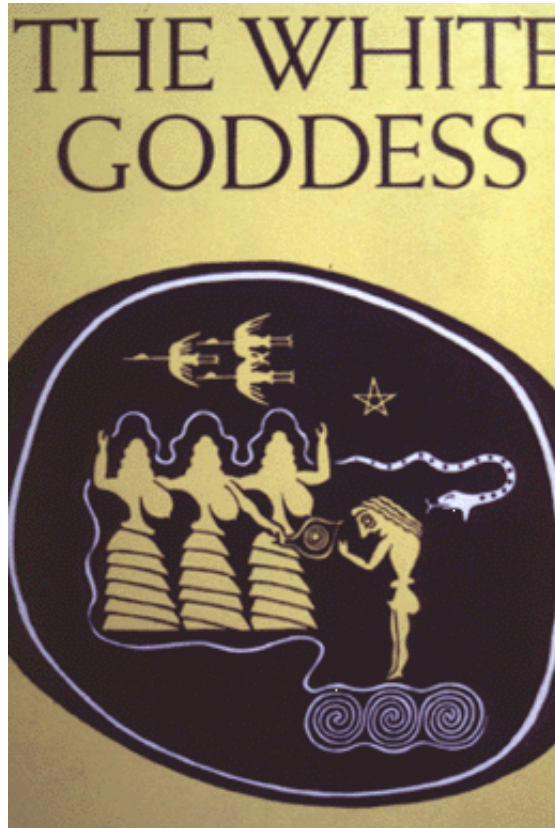
Sun worship is one of the most primitive forms of religion, and early man sometimes distinguished between rising, midday, and setting sun. The Egyptians, for example, divided the sun god into three deities:

Horus, rising sun

Ra or Rê, midday sun

Osiris, old setting sun

Triple Goddess



Slide 4-8: White Goddess
Graves Cover

Just as three positions of the sun are represented by three deities, so with the moon.

Robert Graves writes about the *White Goddess*,

. . . the triple goddess of the New, Full, and Old Moon,

. . . goddess of Birth, Love, and Death . . .

. . . beautiful, generous, fickle, wise, implacable.

Three Fates



Slide 4-10:
MICHELANGELO.
Three Fates
Cayley. *Classical Myths in English Literature*. Boston: Ginn 1893 p. 72

There are lots of trios of women in mythology and in art . . .

Recall from our unit on *Music of the Spheres* that the circles of heaven turned and on each was

a siren, each singing a single note. Plato, *Republic*, Chap XL, says that on the circles were the *three fates*, daughters of Necessity, the three sisters that controlled destiny, chanting to the Sirens' music. Lachesis of things past, Clotho of things present, Atropos of things to come, like the three ghosts in Dickens' *A Christmas Story*.

The length of someone's life was determined by the length of a single thread. Clotho held the spool, Lachesis pulled the thread, Atropos *snipped*.

Three Sirens

Plato's sirens are not to be confused with the three sirens, sea nymphs in the Mediterranean whose singing lead men to their deaths on the rocks. In the *Odyssey*, Odysseus resists them by tying himself to the mast and plugging the sailor's ears with wax. They symbolize the hazards faced by early mariners.

Three Witches



Slide 4-11: FUSELI: *Three Witches*
Clark, Kenneth, *The Romantic Rebellion*.
NY. Harper, 1972.

Recall the famous lines from *Macbeth*,

Double, double, toil and trouble; Fire burn and cauldron bubble.

They appear to be making hot soup for lunch, and Shakespeare even gives the recipe, poison'd entrails, selter'd venom, fillet of fenny snake, eye of newt, toe of frog . . . and much more.

Three Furies

These three lovelies are sometimes called *Resentful*, *Relentless*, and *Avenger*. Their heads were covered with serpents and they breathed vengeance and pestilence. They were often found in the company of Mars, god of war.

Three Graces



Slide 4-13: RAPHAEL: *The Three Graces*, 1505-6.

Fisher, Sally. *The Square Halo*. NY: Abrams, 1995. p. 166

A more appealing trio of women is **The Three Graces**, sometimes called Splendor, Mirth, and Good Cheer, or Beauty, Gentleness, and Friendship. They were often shown with Venus, the nine Muses, and Apollo. The three graces is a very popular art motif, with involved iconography, but might have been just an excuse for artists to portray nude women.

Judgement of Paris



Slide 4-19: RUBENS: *Judgement of Paris*

American Library Color Slide Company Slide # 863

A trio of women is also the subject of another favorite art motif, the *Judgement of Paris*. Paris was the son of the king and queen of Troy. They heard a prophecy that Paris would be the ruin of Troy so put him on Mount Ida where he was brought up by shepherds.

Years later the three goddesses, Hera, Athena, and Aphrodite, were at a wedding where someone tossed a golden apple into the crowd, inscribed "*To the Fairest*." All three wanted it and asked Zeus to decide, but he was too smart to get involved. He packed them all off to Mount Ida for Paris to make the decision.

Hera and Athena offered him riches, fame, empire, and military glory, but when Aphrodite bribed him with the offer of Helen, whom, he voted for Aphrodite, even though Helen was already married and Paris himself was in love with a nymph. What's more, Paris had to go and abduct Helen, which started the Trojan War.

This motif was also used as an allegory representing a choice between the active life and the sensuous one.

Earthly Fours

The number *four* is associated with the earth in many ways.

Four Ages of the World

Ovid writes of the Four Ages of the World:

Gold, the first, free of fear and conflict

Silver, the second, where man had to seek shelter

Bronze, the third, aggressive but not yet entirely evil

Iron, the fourth, with treachery, violence, greed deceit, and war.

Four Continents

Africa	Nile	crocodile, lion, snake, elephant
Americas	Plate	hunter with feathered headpiece
Asia	Ganges	camel, rhino, elephant
Europe	Nile	bull or horse



Slide 4-26: TITIAN:
Rape of Europa
c. 1560.
Hartt, Frederic.
Italian Renaissance
Art. NY: Abrams,
1994. p. 609



Slide 4-27: GIORDANO: *Rape of Europa*, 1686

Janson, H. W. *History of Art*. Fifth Edition. NY: Abrams, 1995. p. 557

The Rape of Europa is a very popular art motif.

Zeus fell in love with the maiden Europa, disguised himself as a bull, fitting for this horniest of Gods, and abducted her to Crete. She eventually gave birth to the continent of Europe.

Four Cardinal Virtues



Slide 4-29: ANDREA DELLA ROBBIA: *Allegory of Prudence*

Fisher, Sally. *The Square Halo*. NY: Abrams, 1995. c. 1475. p. 165

Plato, in his *Republic* mentions four virtues, *Prudence (or Wisdom)*, *Fortitude (or Courage)*, *Temperance*, and *Justice*. These are called the four cardinal virtues to distinguish them from the three Ecclesiastical virtues we'll see later in the New Testament.

Number Symbolism in the Old Testament

To elementary number symbolism we add the Old Testament, in which everything is numbered. Sometimes the numbers have symbolic meaning, but the numbers are often used, it seems, just to make the narrative more concrete, saying, for example, that "*Solomon built a house 100 cubits long*" instead of "*Solomon built a really long house.*"

Umberto Eco says that much number symbolism can be attributed to the passage from the Book of Wisdom of Solomon, from the OT Apocrypha. XI, 20.

Four Cardinal Points

The Old Testament has many references to the four cardinal directions, such as in Isaiah 11, 12:

*"And he shall ... gather together the dispersed of Judah from **the four corners** of the earth."*

and Ezekiel 7, 2:

*"An end, the end is come upon the **four corners** of the land"*

Four Winds



Slide 4-25:

Kitzinger, Ernst. *The Art of Byzantium and the Medieval West*. Bloomington: Indiana, 1976. p. 333

The invention of the four winds is a simple enough addition. In Jeremiah 49, 36 we read

*"I bring **the four winds** from the four quarters of heaven, and will scatter them toward all those winds"*

From Virgil's *Aeneid* we have Aeolus, King of the Winds, who lived on an island just north of Sicily, who ruled the **four winds**:

Boreas, the north wind (Latin, Aquilo)
 Zephyr, the west wing (Latin Favonius)
 Notus, the south wind (Latin Auster)
 Eurus, the east wind (same in Latin)

Four Rivers

Four rivers are mentioned in the Old Testament, Gen 2, 10:

" And a river went out of Eden ... and parted ... into four heads.
 The . . . first [is] **Pison** ... which compasses the whole land of Havilah ...
 the second [is] **Gihon** ... that compasses the whole land of Ethiopia ...
 the third [is] **Hiddekel** ... that goes toward the east of Assyria ...
 and the fourth [is] **Euphrates** that goes eastward to Assyria."

Four Rivers of Hell

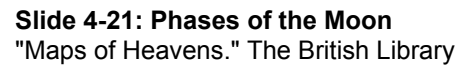


Slide 4-28: Aeneas and the Sibyl enter Charon's boat.

Hamilton, Edith. *Mythology*. NY: Mentor, 1942, p. 227

The **four rivers of Hades**, Acheron, Styx, Phlegethon, and Cocytus, are not from the Old Testament, but play an important role in Plato's *Phaedo*, Dante's *Inferno*, and Virgil's *Aeneid*. In this picture, Aeneas and the Sibyl enter Charon's boat to cross at the junction of the Acheron and the Cocytus.

Astrological Numbers



The Chaldeans, who lived in Babylonia (now Iraq), developed astrology as early as 3000 B.C.E., and the Chinese were practicing astrology by 2000 BC. Astrology was known in ancient India and by the Maya of Central America. By the 500s BC, astrology had spread to Greece, where Pythagoras and Plato used it into their study of religion and astronomy.

It is certainly clear that certain astronomical bodies, particularly the sun, affected the change of seasons and the success of crops. So its not a big leap to assume that the movements of other bodies such as the planets affected or represented additional aspects of life. They also gave our notions of time, from the daily cycle of night and day, the lunar cycle of 28 days, giving the month, subdivided into the four phases of the moon, and the yearly cycle of 12 lunar cycles or about 360 daily cycles.

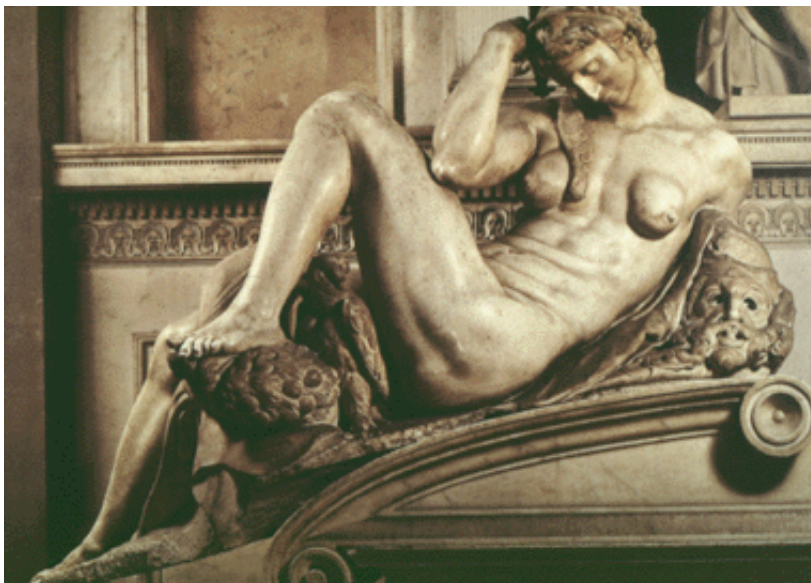
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**Slide 4-22: Hades & Persephone**

Hamilton, Edith. *Mythology*. NY: Mentor, 1942 p. 22

In Greek mythology, the seasons came about when Demeter's daughter, Persephone was abducted to the underworld by Hades. There followed an awful flap, too involved to relate here, but they finally cut a deal where Persephone spent half the year in the underworld, which time became autumn and winter, and half above ground, which became spring and summer.

Four Divisions of the Day

**Slide 4-23: MICHELANGELO: Sculptures in Medici Chapel, closeup of Notte**

Canaday, John. *Masterpieces by Michelangelo*. NY: Crown, 1979. p. 95

The division of the day into **4 periods**, dawn, day, evening, and night, is here represented by Michelangelo, in the Medici Chapel.

Four Cardinal Points



**Slide 4-24:
Compass Rose**
Calter Photo

The movements of celestial bodies may also have led to Four becoming identified with the four directions, toward the sunrise, towards the sunset, and the two directions perpendicular to these.

Thus four is the number of the *cardinal points*, N, S, E, W, and the directions in which a person can move; right, left, forward, back.

Celestial Sevens



**Slide 4-35: VEDDER:
The Pleiades**
Cayley. *Classical Myths in English Literature*. Boston: Ginn 1893 p. 146

Seven is one of the main astrological numbers.

- Since 4 lunar phases made a complete lunar cycle of 28 days, each phase was 7 days, which defines the week.
- There are seven stars in the Pleiades.

Many a night I saw the Pleiades, rising thro' the mellow shade, Glitter like a swarm of fireflies tangled in a silver braid.

From *Locksley Hall* by Alfred, Lord Tennyson (1809-92)



Slide 4-36:
Big Dipper
National
Geographic
Map

- There are seven stars in the Big Dipper, the most prominent of the "indestructible" stars, the circumpolar.

From Homer's *Iliad* we have; ". . . and the bear, which revolves in its place and watches Orion, and alone of [the stars] never takes a bath in the ocean."

- There are seven colors of the rainbow: red, orange, yellow, green, blue, indigo, violet

We'll have more about the rainbow as an art motif later.

Planets

The ancient world knew of seven "planets" and identified them with the days of the week.

Day	Planet
Sunday	Sun
Monday	Moon
Tuesday	Mars
Wednesday	Mercury
Thursday	Jupiter
Friday	Venus
Saturday	Saturn

Wisdom

Seven is often used as a number of wisdom. From the Old Testament, Proverbs 9:1:

"Wisdom hath builded her house, she hath hewn out her seven pillars"

The Flood



Slide 4-37: DORE: *The Deluge*
O. M. Dunham. "*Bible Gallery*," 1880

Other Sevens from the Old Testament include the great flood. **Noah** had seven days to prepare before the flood. He was commanded to take seven pair of clean beasts and birds.

*"Of every clean beast thou shalt take to thee **by sevens**, the male and the female: and of beasts that are not clean **by two**, the male and the female."*

Clean and unclean spelled out in Leviticus Chapter 11, where clean meant ritually pure, similar to what we consider Kosher.

The Creation



Slide 4-38: MICHELANGELO: *Creation of the Sun, Moon, and Vegetation*
Canaday, John. *Masterpieces by Michelangelo*. NY: Crown, 1979. p. 17

Other Sevens from the Old Testament include the Seven acts of creation;

1. light, 2. firmament, 3. plants, 4. heavenly bodies, 5. fish & fowl, 6. animals & humans, 7. rest.

Sabbatical & Jubilee

The notion that the seventh day was for rest led to the adoption of the weekly Sabbath as a day of rest. But other sacred times of the calendar were based on seven, the seventh or sabbatical year.

Leviticus 25: 1-4: *And . . . then shall the land keep a Sabbath . . . Six years shall you sow your field, and prune thy vineyard, and gather fruit. But the seventh year shall be a Sabbath of rest unto the land you shall neither sow your field, nor prune your vineyard.*

and the Jubilee year.

Leviticus 25, 8- 11: *And you shall number seven Sabbaths of years unto thee, seven times seven years; Then shalt thou cause the trumpet of the jubilee to sound . . . And ye shall hallow the fiftieth year, and proclaim liberty throughout the land it shall be a jubile unto you; and ye shall return every man unto his possession, and ye shall return every man unto his family. . . . ye shall not sow, neither reap that which groweth of itself in it, nor gather [the grapes]. . .*

Menorah



Slide 4-39: Menorah

Keller, Sharon. *The Jews: A Treasury of Art and Literature*. NY: Levin Assoc. 1992.

Seven also numbers the days of Passover and the branches of the menorah

Exodus 25, 31-37: *"And thou shalt make a candlestick [of] pure gold six branches shall come out of the sides of it; three branches . . . out of the one side, . . . and three branches out of the other side . . . Three bowls made like unto almonds . . . in one branch. . . and three bowls made like almonds in the other branch. . . . And you shall make the seven lamps thereof."*

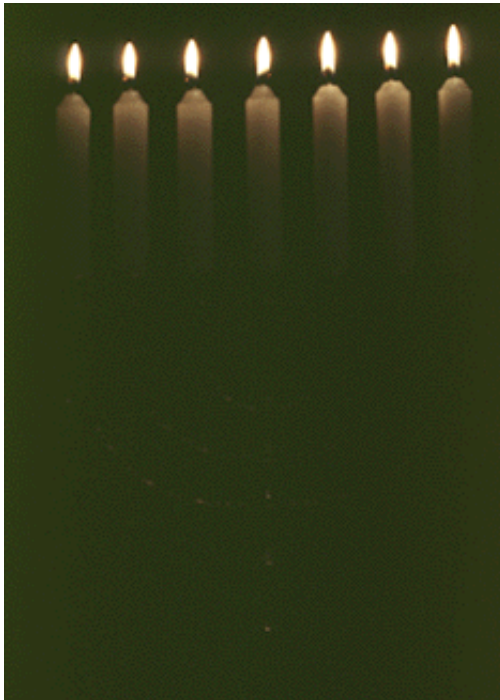


Slide 4-40: Menorah, lit

Calter Photo

Robert Graves gives the menorah cosmic significance by comparing the seven flames to the **seven planets**. He cites Zechariah 4:1-10,

"And the angel . . . came again, and waked me, . . . And he said to me, What seest thou? And I said, I have seen, . . . a candlestick all of gold, with its bowl upon the top of it, and its seven lamps thereon; . . . [these are] the eyes of Jehovah, which run to and fro through the whole earth."

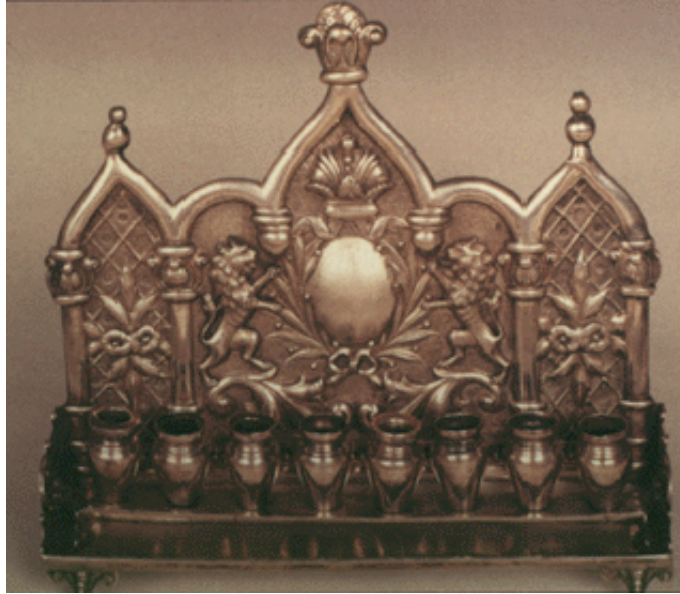


Slide 4-41: Menorah, lit in a dark room

Calter Photo

Graves takes the *seven eyes* to mean the seven planets.

Chanukah Candlestick



Slide 4-43: Silver Menorah, Prague, 1860
Levin, Hugh, Associates.
Jewish Calendar, 1997.

In contrast to the Menorah of Exodus with seven candles is the Chanukah menorah with eight candles, which celebrates a miracle. The story is that when the Temple in Jerusalem was rededicated after the war of the Macabees (167-160 B.C.E.) and after being desecrated by Antiochus Epiphanes, only a small amount of oil was found to light the menorah but it lasted for eight days.

A ninth candle, the Shamesh, is used to light the other eight, one night at a time, for the eight days of Chanukah, the festival of lights occurring near the winter solstice.

Ten Digits

Being the number of *fingers or toes*, ten became the base of the *decimal number system*. It is the number of *completeness or finality*.

With ten as *complete*, nine comes into prominence as *almost complete*. Troy was besieged for 9 days and fell on the tenth. Odysseus wandered for 9 years and arrived home on the tenth.

Ten Commandments

From the Old Testament we have, of course, the *ten commandments* or Decalogue. The Old Testament also describes ***Tithing***, to give a tenth part of one's income.

Twelve and the Zodiac



Slide 4-48: Zodiac Pavement

Keller, Sharon. *The Jews: A Treasury of Art and Literature*. NY: Levin Assoc. 1992. p.20

Twelve is one of the big numbers in astrology because twelve complete lunar cycles takes approximately one year. Each month was eventually identified with a sign of the zodiac, which is believed to have originated in Mesopotamia as early as 2000 BC. The Greeks adopted the symbols from the Babylonians and passed them on to the other ancient civilizations.

The Egyptians assigned other names and symbols to the zodiacal divisions. The Chinese also adopted the 12-fold division, but called the signs rat, ox, tiger, hare, dragon, serpent, horse, sheep, monkey, hen, dog, and pig. The Aztecs independently devised a similar system.

Twelve thus symbolized a **complete cycle**; and twelve was also used to divide the day and also the night.

Twelve Gods of Olympus



Slide 4-49: MANTEGNA: *Parnassus* American Library Color Slide Co. Inc. Slide #7507

Twelve is the number of Gods on Mount Olympus:

The Four siblings

1. Zeus	Jupiter	supreme ruler
2. Poseidon	Neptune	ruler of the sea
3. Hades	Pluto	ruler of the underworld
4. Hestia	Vesta	virgin. hearth & home
5. Hera	Juno	Zeus' wife

The Children of Zeus

6. Ares	Mars	war
7. Pallas Athena	Minerva	virgin
8. Hephaestus	Vulcan	fire, forge
9. Phoebus	Apollo	Apollo beautiful
10. Artemis	Diana	huntress, virgin
11. Hermes	Mercury	messenger
12. Aphrodite	Venus	love & beauty, mother of Aeneus

But, curiously, the twelve Olympians are not all associated with the 12 signs of the zodiac.

Twelve Labors of Hercules



Slide 4-50: POLLAIUOLO: *Hercules and Antaeus*

Janson, H. W. *History of Art*. Fifth Edition. NY: Abrams, 1995. p. 466

Twelve is associated with **Hercules**, a very popular art motif. The Renaissance artist Pollaiuolo, for example, did an entire series of paintings on Hercules.



Slide 4-51:
Herculaneum
Calter Photo

Hercules even had a city named for him, *Herculaneum*, destroyed in 79 AD by the same eruption of Vesuvius that buried Pompeii. The Italian city of *Ercolano* still bears his name.

Fatal Forties

Forty is the number of trial and privation, possibly starting when the Babylonians observed the forty-day disappearance of the Pleides which coincided with the rainy season, storms and floods, trial, danger. The Pleides' return marked the start of the New Year Festival. Other negative associations for forty are:

- 40 years of Hebrew wandering in the desert
- 40 days and nights of the great flood.
- 40 years of Philistine dominion over Israel
- 40 days of Moses on Sinai
- 40 days of Elijah's journey
- 40 days of mourning for Jacob
- 40 days, and Nineveh shall be overthrown, said Jonah.
- 40 days of Lent, the period of fasting, self-denial, and penitence traditionally observed by Christians in preparation for Easter.
- 40 day period of isolation in the Roman port, which survives in the word *quarantine*.

Summary

Tabulating some of our number symbolism, we have:

One	Self, Deity, Source of all Numbers
Two	Duality, Defect
Three	All, Best, Holy, First Triangular
Four	Astrological Number, Earth, First Square
Seven	Astrological, Steps to Wisdom and Virtue
Ten	Completeness, Finality, Perfection
Twelve	Zodiac, A Complete Cycle
Forty	Trial and Privation

We may laugh now at some of the meanings given to numbers, but how many of us would be willing to stay in room 13 or on the 13th floor on Friday the 13th?

We're not finished with number symbolism. We'll cover those associated with the New Testament, Christianity, and the Middle Ages later.

Keep in mind that we're on shaky ground here. Much of this material is speculation, without any real proof, and is full of contradictions.

So why did we do this? We're not so much interested in the numbers themselves but we are looking for frequently used art motifs. Further, seeing how the ancients viewed numbers will help us get into the right frame of mind to understand how they viewed geometric figures, triangles, squares, octagons, and that's the subject of our next unit.

Reading

Butler, Chapter 1

Hopper, Chapters 1-3

Calter, pp. 1-3



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