Pythagoras and the Pythagoreans

1. Pythagoras: Background

2. Pythagoras: Signs and Wonders

3. Pythagoreans and Music

4. Pythagoreans and Numbers

5. Pythagoreans and Religion
Pythagoras: Background

- Pythagoras was born around 570 BC on the Greek island of Samos. He was a contemporary of Buddha and Confucius.
Pythagoras was born around 570 BC on the Greek island of Samos. He was a contemporary of Buddha and Confucius.

Most of his life was in the Italian town of Croton (now spelled Crotone). He was a very popular teacher, and is credited with coining the words *philosophy* and *mathematics*.
Pythagoras founded a society known today as the Pythagoreans.
Pythagoras: Background

- Pythagoras founded a society known today as the Pythagoreans.
- According to Aristotle (384–322 BC): “The so-called Pythagoreans applied themselves to mathematics, and were the first to develop this science; and though penetrating it, they came to fancy that its principles are the principles of all things.”
Pythagoras and the Pythagoreans

1. Pythagoras: Background

2. Pythagoras: Signs and Wonders

3. Pythagoreans and Music

4. Pythagoreans and Numbers

5. Pythagoreans and Religion
Various “Christ-like” qualities have been attributed to Pythagoras:

- Articulated a dogma of the soul
- Born of a virgin
- Calmed the stormy seas
- Walked on water
- Healed the sick
- Raised the dead
Various “Christ-like” qualities have been attributed to Pythagoras:

- Articulated a dogma of the soul
Various “Christ-like” qualities have been attributed to Pythagoras:

- Articulated a dogma of the soul
- Born of a virgin

ΠΥΘΑΓΟΡΑΣ Ο ΣΑΜΙΟΣ
(Pythagoras the Samian)
580–496
Various “Christ-like” qualities have been attributed to Pythagoras:

- Articulated a dogma of the soul
- Born of a virgin
- Calmed the stormy seas
Various “Christ-like” qualities have been attributed to Pythagoras:

- Articulated a dogma of the soul
- Born of a virgin
- Calmed the stormy seas
- Walked on water
Various “Christ-like” qualities have been attributed to Pythagoras:

- Articulated a dogma of the soul
- Born of a virgin
- Calmed the stormy seas
- Walked on water
- Healed the sick
Various “Christ-like” qualities have been attributed to Pythagoras:

- Articulated a dogma of the soul
- Born of a virgin
- Calmed the stormy seas
- Walked on water
- Healed the sick
- Raised the dead
1. Pythagoras: Background

2. Pythagoras: Signs and Wonders

3. Pythagoreans and Music

4. Pythagoreans and Numbers

5. Pythagoreans and Religion
Unison of pitch occurs when vibrating strings are of equal length. Thus, their respective lengths are in a 1:1 ratio.
Unison of pitch occurs when vibrating strings are of equal length. Thus, their respective lengths are in a 1:1 ratio.

The octave is obtained by a 1:2 ratio.

The fifth is obtained by a 2:3 ratio.

The fourth is obtained by a 3:4 ratio.
Unison of pitch occurs when vibrating strings are of equal length. Thus, their respective lengths are in a 1:1 ratio.

The octave is obtained by a 1:2 ratio.

The fifth is obtained by a 2:3 ratio.

The fourth is obtained by a 3:4 ratio.

Similarly, from the note C . . .

- 6/5 gives the note A.
- 4/3 gives the note G.
- 3/2 gives the note F.
- etc.
Pythagoras and the Pythagoreans

1. Pythagoras: Background

2. Pythagoras: Signs and Wonders

3. Pythagoreans and Music

4. Pythagoreans and Numbers

5. Pythagoreans and Religion
Pythagoreans and Numbers

- Odd numbers – qualities of males.

Shakespeare’s *Merry Wives of Windsor*: “They say there is divinity in odd numbers, either in nativity, chance or death.”

- Even numbers – qualities of females.

Also associated with darkness and evil.

Note: Darkness and evil were not associated with females.
Odd numbers – qualities of males.
  ▶ Light and Goodness.
  ▶ Shakespeare’s *Merry Wives of Windsor*: “They say there is divinity in odd numbers, either in nativity, chance or death.”
Odd numbers – qualities of males.
  • Light and Goodness.
  • Shakespeare’s *Merry Wives of Windsor*: “They say there is divinity in odd numbers, either in nativity, chance or death.”

Even numbers – qualities of females.
Odd numbers – qualities of males.
  ▶ Light and Goodness.
  ▶ Shakespeare’s *Merry Wives of Windsor*: “They say there is divinity in odd numbers, either in nativity, chance or death.”

Even numbers – qualities of females.
  ▶ Also associated with darkness and evil.
  ▶ Note: Darkness and evil were *not* associated with females.
1 – The generator of all numbers, but not a number itself.
Qualities of Numbers

▶ 1 – The generator of all numbers, but not a number itself.
▶ 2 – The first female number.
   ▶ Known as the number of opinion and division.
Qualities of Numbers

- 1 – The generator of all numbers, but not a number itself.
- 2 – The first female number.
  - Known as the number of opinion and division.
  - This trait (opinion and division) is still associated with the number two in current usage: “two-faced,” “double-tongued,” “double-minded.”
- 3 – The first male number.
  - The first genuine number, having a beginning, middle, and end.
  - The basis for construction of military units in the Bible.
  - Judges 7 – Gideon chooses 300 men to fight the Midianites.
  - 1 Samuel 13 – Saul chooses 3000 to fight the Philistines.
  - 2 Samuel 23 (the “three warriors,” and the “thirty chiefs” who joined David at Adulam).
- 4 – The number of justice and order.
1 – The generator of all numbers, but not a number itself.

2 – The first female number.
   - Known as the number of opinion and division.
   - This trait (opinion and division) is still associated with the number two in current usage: “two-faced,” “double-tongued,” “double-minded.”

3 – The first male number.
   - The first genuine number, having a beginning, middle, and end.
Qualities of Numbers

1 – The generator of all numbers, but not a number itself.

2 – The first female number.
   ▶ Known as the number of opinion and division.
   ▶ This trait (opinion and division) is still associated with the number two in current usage: “two-faced,” “double-tongued,” “double-minded.”

3 – The first male number.
   ▶ The first genuine number, having a beginning, middle, and end.
   ▶ The basis for construction of military units in the Bible.
     ▶ Judges 7 – Gideon chooses 300 men to fight the Midianites.
     ▶ 1 Samuel 13 – Saul chooses 3000 to fight the Philistines.
     ▶ 2 Samuel 23 (the “three warriors,” and the “thirty chiefs” who joined David at Adulam).
Qualities of Numbers

1 – The generator of all numbers, but not a number itself.

2 – The first female number.
   - Known as the number of opinion and division.
   - This trait (opinion and division) is still associated with the number two in current usage: “two-faced,” “double-tongued,” “double-minded.”

3 – The first male number.
   - The first genuine number, having a beginning, middle, and end.
   - The basis for construction of military units in the Bible.
     - Judges 7 – Gideon chooses 300 men to fight the Midianites.
     - 1 Samuel 13 – Saul chooses 3000 to fight the Philistines.
     - 2 Samuel 23 (the “three warriors,” and the “thirty chiefs” who joined David at Adulam).

4 – The number of justice and order.
5 – Love and marriage  
(the union of the first male and female numbers).
Qualities of Numbers

- 5 – Love and marriage
  (the union of the first male and female numbers).
- 6 – The first perfect number.
Qualities of Numbers

- 5 – Love and marriage
  (the union of the first male and female numbers).
- 6 – The first perfect number.
  - The number of creation.
  - Precisely equals the sum of the smaller numbers that divide it
    \((6 = 1 + 2 + 3)\).
Qualities of Numbers

▶ 5 – Love and marriage
   (the union of the first male and female numbers).
▶ 6 – The first perfect number.
   ▶ The number of creation.
   ▶ Precisely equals the sum of the smaller numbers that divide it
     \((6 = 1 + 2 + 3)\).
   ▶ Philo thought that God created the world in six days because six was a
     perfect number.

Augustine (City of God)

"These works [of creation] are recorded to have been completed in six days (the same day being six times repeated), because six is a perfect number, not because God required a protracted time, as if He could not at once create all things, which then should mark the course of time by the movements proper to them, but because the perfection of the works was signified by the number six."

Russell W. Howell

Pythagoras and the Pythagoreans
Qualities of Numbers

▶ 5 – Love and marriage
   (the union of the first male and female numbers).
▶ 6 – The first perfect number.
   ▶ The number of creation.
   ▶ Precisely equals the sum of the smaller numbers that divide it
     \((6 = 1 + 2 + 3)\).
   ▶ Philo thought that God created the world in six days because six was a
     perfect number.
   ▶ Augustine (\textit{City of God}) “These works [of creation] are recorded to
     have been completed in six days (the same day being six times
     repeated), because six is a perfect number, not because God required a
     protracted time, as if He could not at once create all things, which then
     should mark the course of time by the movements proper to them, but
     because the perfection of the works was signified by the number six.”
7 – Called “worthy of veneration.”
The Pythagoreans thought it was the number of religion because they believed humans were controlled by seven celestial spirits.

8 – Important because it is the number of the first cube, whose form has eight corners.

9 – The first square of an odd number, it is associated with failure and shortcoming because it falls one short of the number 10, which has special significance.

10 – Represents the cosmos as a whole.
The fact that 1 + 2 + 3 + 4 = 10 makes 1, 2, 3, and 4 special.
Qualities of Numbers

7 – Called “worthy of veneration.”
The Pythagoreans thought it was the number of religion because they believed humans were controlled by seven celestial spirits. Seven is also prominent in Judeo-Christian thought. See, for example, Isaiah 11:2; Rev. 1:4; 3:1, 4:5; 5:6.

8 – Important because it is the number of the first cube, whose form has eight corners.

9 – The first square of an odd number, it is associated with failure and shortcoming because it falls one short of the number 10, which has special significance.

10 – Represents the cosmos as a whole. The fact that 1 + 2 + 3 + 4 = 10 makes 1, 2, 3, and 4 special.
Qualities of Numbers

▶ 7 – Called “worthy of veneration.”
   The Pythagoreans thought it was the number of religion because they believed humans were controlled by seven celestial spirits. Seven is also prominent in Judeo-Christian thought. See, for example, Isaiah 11:2; Rev. 1:4; 3:1, 4:5; 5:6.

▶ 8 – Important because it is the number of the first cube, whose form has eight corners.
Qualities of Numbers

7 – Called “worthy of veneration.”
The Pythagoreans thought it was the number of religion because they believed humans were controlled by seven celestial spirits. Seven is also prominent in Judeo-Christian thought. See, for example, Isaiah 11:2; Rev. 1:4; 3:1, 4:5; 5:6.

8 – Important because it is the number of the first cube, whose form has eight corners.

9 – The first square of an odd number, it is associated with failure and shortcoming because it falls one short of the number 10, which has special significance . . .
7 – Called “worthy of veneration.”
The Pythagoreans thought it was the number of religion because they believed humans were controlled by seven celestial spirits. Seven is also prominent in Judeo-Christian thought. See, for example, Isaiah 11:2; Rev. 1:4; 3:1, 4:5; 5:6.

8 – Important because it is the number of the first cube, whose form has eight corners.

9 – The first square of an odd number, it is associated with failure and shortcoming because it falls one short of the number 10, which has special significance . . .

10 – Represents the cosmos as a whole.
The fact that $1 + 2 + 3 + 4 = 10$ makes 1, 2, 3, and 4 special.
1. Pythagoras: Background

2. Pythagoras: Signs and Wonders

3. Pythagoreans and Music

4. Pythagoreans and Numbers

5. Pythagoreans and Religion
Pythagoreans and Religion
THE CLIMAX of PROPHECY

Studies on the Book of Revelation

RICHARD BAUCKHAM
used isopsephism to demonstrate that Menahem is the name of the messianic ‘branch’ of Zechariah’s prophecy. Surprisingly, the variant reading 616 can also yield the same information. If the number 616 is simply written in Hebrew letters, it is נדנ (600 = ת, 10 = י, 6 = י), which transliterates נדנ, the genitive form which appears in the phrase נדנ נדנ נדנ in Revelation 13:18. The variant reading seems to represent a genuine alternative tradition about the number of the beast, which also yields the identification of Nero with the apocalyptic beast.

If, as the manuscript evidence strongly suggests, John himself preferred the number 666, this was probably because there are further mysteries hidden in this number. Unlike 616, 666 has peculiar mathematical characteristics. It is a doubly triangular number, though it seems that it was not until 1912 that this was first recognized. Ancient mathematics inherited from the Pythagorean tradition an interest in numbers conceived as corresponding to geometrical figures. Those corresponding to two-dimensional figures are known as plane numbers. These can be divided into two types: those corresponding to figures with equal sides (triangular, square, pentagonal, hexagonal etc.) and those corresponding to figures with unequal sides, of which the most important are the rectangular numbers. Of all these plane numbers, much the most important were the triangular numbers (τριγωνω), the square numbers (τετραγωνω) and the rectangular numbers (ἑτερωμεικες). These three types of numbers are closely related to each other and were frequently discussed in relation to each other, as, for example, in the mathematical works of Theon of Smyrna and

---

1Oberweis (1986) 236.
2van den Bergh van Eysinga (1912). His further conclusion that therefore 666 represents the Gnostic figure of Sophia is implausible.
3There is no satisfactory translation of ἑτερωμεικες. It describes a rectangular figure of which one side is precisely one unit longer than the other, and so the terms ‘rectangular’ and ‘oblong’ are not really sufficiently specific. D’Ooge’s translation of Nichomachus (D’Ooge [1926]) uses ‘heteromecic’. For convenience I follow Menken (1985) 27-28, in referring to ‘rectangular numbers’.
4See D’Ooge (1926) 39.