

Astronomy & the Bible

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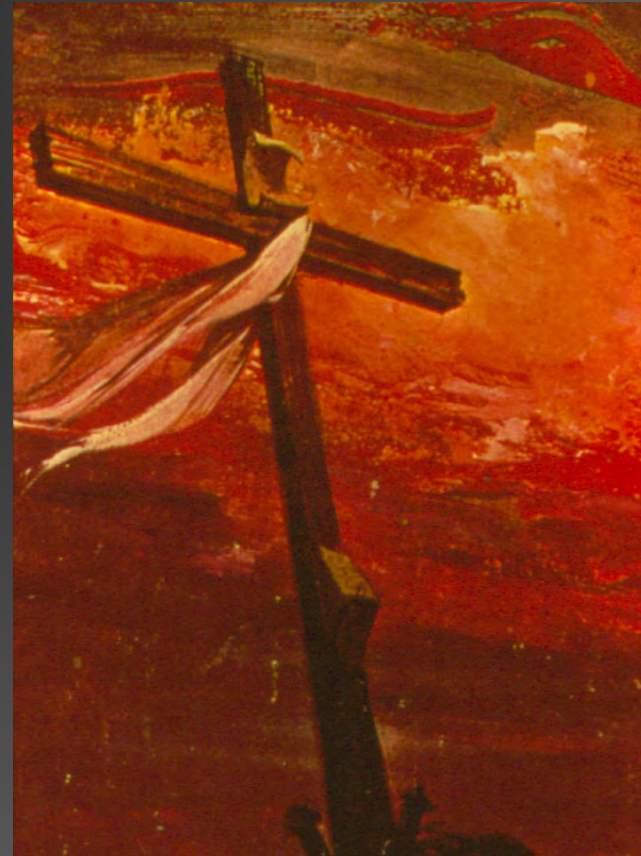
Is Religion a Matter of Taste?

- Is religion like art, a matter of taste?
- But each religion claims to tell us how things really are.
- They make claims that are incompatible.
- So they cannot all be right.



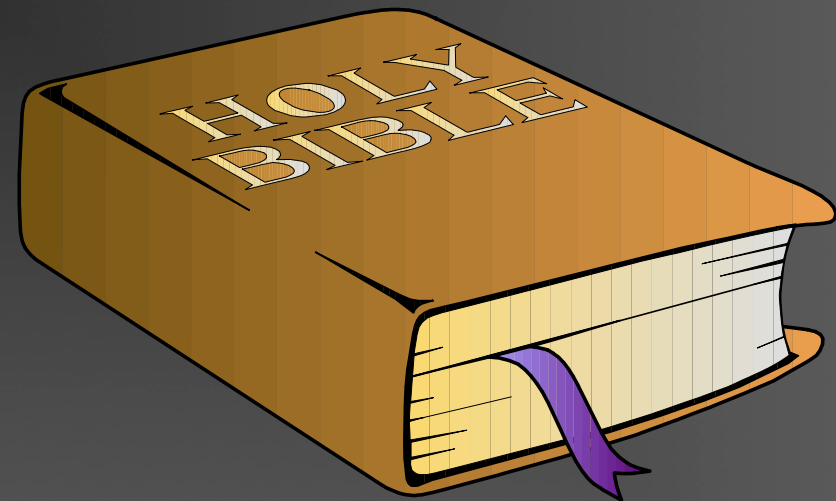
Consider Christianity

- Among the world religions, only Christianity offers much evidence for its truth.
- Evidence - from the nature of the universe - for a God who is infinite & personal
- Evidence that this God is behind the Bible, from:
 - Fulfilled prophecy
 - Jesus
 - Changed lives
 - Preknowledge of science

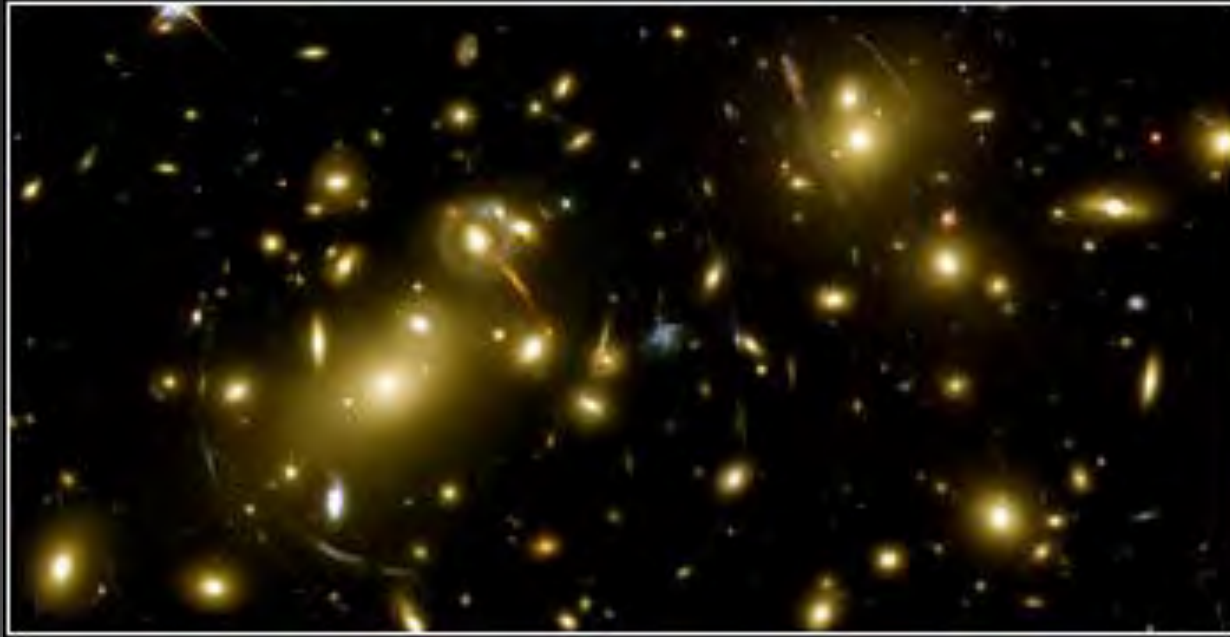


Astronomy & the Bible

- Want to look at one area here, pre-knowledge of astronomy
- Compare the Bible's statements with other ancient views & with modern science
- Our topics:
 - Size of universe
 - Number of stars
 - Support of earth
 - Shape of earth



The Size of the Universe



Size according to Psalm 8

O LORD, our Lord, how majestic is your name in all the earth!... When I consider your heavens, the work of your fingers, the moon and the stars, which you have set in place, **what is man** that you are mindful of him, the son of man that you care for him?

Size according to Jeremiah 31

This is what the LORD says:

Only if the **heavens above can be measured** and the foundations of the earth below searched out will I reject all the descendants of Israel for all they have done, declares the LORD.

Size according to Qur'an 2:19-20

Men, serve your Lord, who has created you and those who have gone before you, so that you may guard yourselves against evil; who has made the earth a bed for you and the **sky a dome**, and has sent down water from the sky to bring forth fruits for your sustenance.

Size according to Qur'an 22:64

His is all that the heavens and earth contain. He is the Self-sufficient, the Glorious One. Do you not see how He subdued to you all that is in the earth? He has given you ships which sail the sea at His bidding. He **holds the sky from falling down**; this it shall not do except by His own will.
Compassionate is Allah, and merciful to men.

Size according to Qur'an 34:9

Truly, those who deny the life to come are doomed, for they have grossly erred. Do they not see what is before them and behind them in heaven and earth? If We will, We can cave in the earth under their feet or **let a part of heaven fall upon them.** Surely there is a sign in this for every penitent man.

Size of the Universe

- Bible:
 - Immeasurably large
 - Amazing that God cares about humans
- Qur'an
 - Dome sky, that might fall on people
 - A "Chicken Little" universe



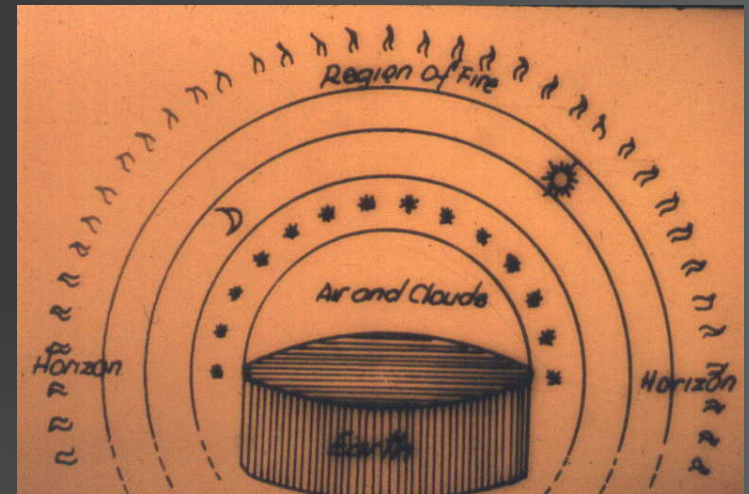
Size of the Universe

- More scientific is Anaximander of Miletus, in his work *About Nature* (c 600 BC).
- Yet even he pictures a universe less than a hundred times larger than the earth.
- Consider these quotations from his treatise *About Nature*:



Size according to Anaximander

The stars are wheel-shaped masses of air, full of fire, breathing out flames from pores in different parts.... The sun has the highest position of all, the moon is next in order, and under it are the fixed stars and planets.... The circle of the sun is **28 times as large as the earth**, like a chariot wheel, having a hollow center and this full of fire, shining in every part, and sending out fire through a narrow opening like the air from a flute.



Size according to Modern Science

- We still don't know how large the universe is, as we have not found any ends!
 - It is about 25 trillion miles (4 light-years) to the nearest star beyond the sun.
 - It is about 2 million light-years (12 quintillion miles) to the next large galaxy.
 - The most distant known objects are about 10 billion light-years away.
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The Number of Stars



Number according to Genesis 15

[God] took [Abraham] outside and said, 'Look up at the heavens and **count the stars** – if indeed you can count them.' Then he said to him, 'So shall your offspring be.' Abraham believed the LORD, and he credited it to him as righteousness.

Number according to Jeremiah 33

I will make the descendants of David my servant and the Levites who minister before me as **countless as the stars of the sky** and as measureless as the sand on the seashore.

Number according to Genesis 22

The angel of the LORD called to Abraham from heaven a second time and said, 'I swear by myself, declares the LORD, that because you have done this and have not withheld your son, your only son, I will surely bless you and make your descendants as numerous as the stars in the sky and as the sand on the seashore.'

Number according to the Bible

- This promise must have seemed strange to Abraham:
 - He came from Ur, with a 100,000+ population.
 - As a shepherd he probably spent hours looking at the stars above and the sand below.
- He must have realized that he could only see a few thousand stars, less than a good handful of sand.



Number by Ancient Science

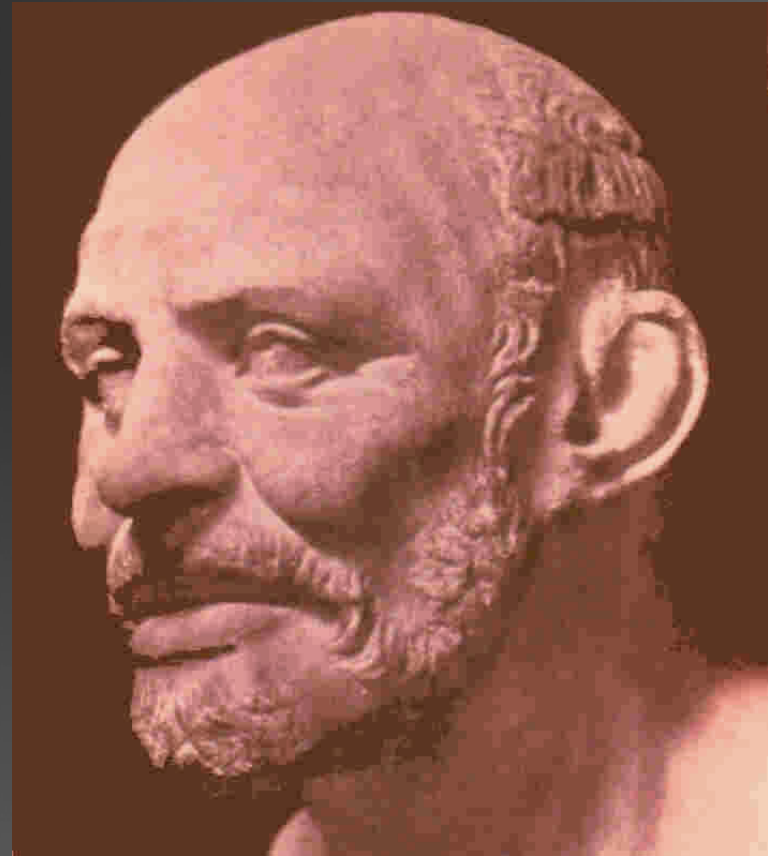
- Less than 6,000 stars are visible from earth without telescopes.
 - The ancient star catalogs of Hipparchus and Ptolemy listed only about 2,000.
 - So claims to an uncountable number of stars would be surprising unless one went beyond observation.
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Number according to Democritus

Democritus would say that there are an infinite number of worlds, differing in size; in some there is neither sun nor moon, in others they are larger than ours, and in others there are many suns and moons. The distances between the worlds are unequal and in some quarters there are more worlds, and in others fewer... in some quarters worlds are coming into being and in others they are ceasing to exist.

Number according to Democritus

- This is the best guess from antiquity.
- Yet Democritus means something a little different than we do when he speaks of a world.
- His guess of infinity is probably way too high.



Number by Modern Science

- We can see millions of stars with even a moderate telescope.
- Our galaxy the Milky Way has perhaps 200 billion stars.
- There are estimated to be some 100 billion galaxies in our universe.



Number by Modern Science

We obviously cannot state the total number of stars in the whole universe with any approach to accuracy, but its vastness is suggested by the statement that there are probably something like as many stars in the universe as there are **grains of sand on all the seashores of the world.**

Sir James Jeans, *The Stars in Their Courses*, 137

Support of the Earth



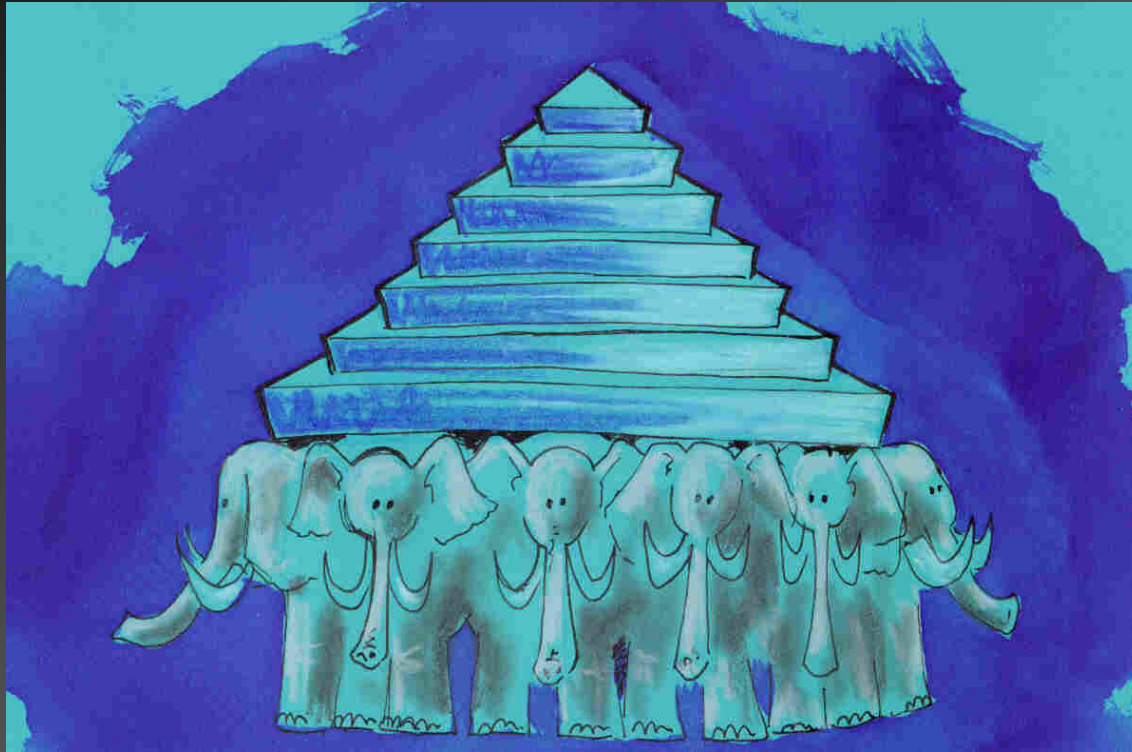
Earth Support in Job 26

[God] spreads out the northern
skies over empty space; he
suspends the earth over nothing.

Earth Support in Rigveda

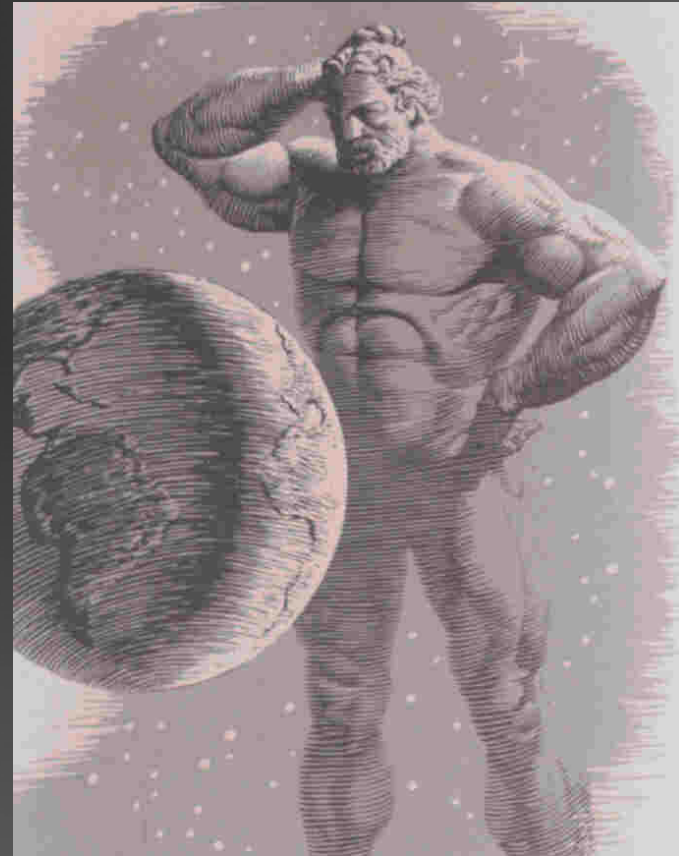
This world, flat and triangular, is composed of seven stages, one of honey, another of sugar, a third of butter, and still another of wine, and the whole mass is borne on the heads of countless elephants, which in shaking produce earthquakes.

Earth Support in Rigveda



Earth Support among Greeks

- Greek mythology had Atlas supporting the earth.
- Thales said the earth was held up by water.
- Anaxagoras thought it floated on air, a sort of large frisbie!
- Anaximander claimed it was supported by nothing, but was refuted by Aristotle.



Earth Support in Modern Science

- Indeed, the earth is held up by no material support.
- The earth's support is immaterial, a balance between the earth's inertia & the gravity of the sun.



The Shape of the Earth



Shape in Revelation 20?

When the thousand years are over, Satan will be released from his prison and will go out to deceive the nations in the **four corners of the earth** – Gog and Magog – to gather them for battle.

Shape according to Liberals

- Taking some poetic expressions literally, and using much guesswork, they claim the Bible has:
 - Flat earth with round or angular edges
 - Dome sky
 - Attic rooms for rain
 - Earth floating on water



Shape in Isaiah 40?

[God] sits enthroned above the **circle of the earth**, and its people are like grasshoppers. He stretches out the heavens like a canopy, and spreads them out like a tent to live in.

Shape in Job 26

[God] has described a **circle on the face of the waters**, at the boundary between light and darkness.



Shape in Matthew 24, Luke 17

- The passages describing the 2nd coming picture events characteristic of different times of day:
 - Sleeping
 - Working in the fields
 - Grinding grain
- This fits well with a round earth, on which it is day or night depending on location.

Shape in Greek Science

- Hecataios – flat, circular earth
 - Anaximander – pillar-shaped earth
 - Pythagoras – spherical earth
 - Oldest known Greek to postulate this
 - Don't know his reasoning
 - Problem of gravity tended to prevent this solution
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Shape in Modern Science

- Earth is pretty close to spherical
 - Slightly flattened at poles
 - Equatorial diameter about 20 miles longer than polar, less than 1/10" on a 20" globe
- The line marking off day and night is thus very nearly a circle.



Summary on Astronomy & Bible

- The Bible sees the universe as enormous, in contrast to most ancient views.
 - The Bible says the stars are uncountable, like the sand of the sea, also a rare idea.
 - The Bible has the earth supported by nothing, also rare in antiquity.
 - The Bible seems to picture a round earth, which was rare and counterintuitive.
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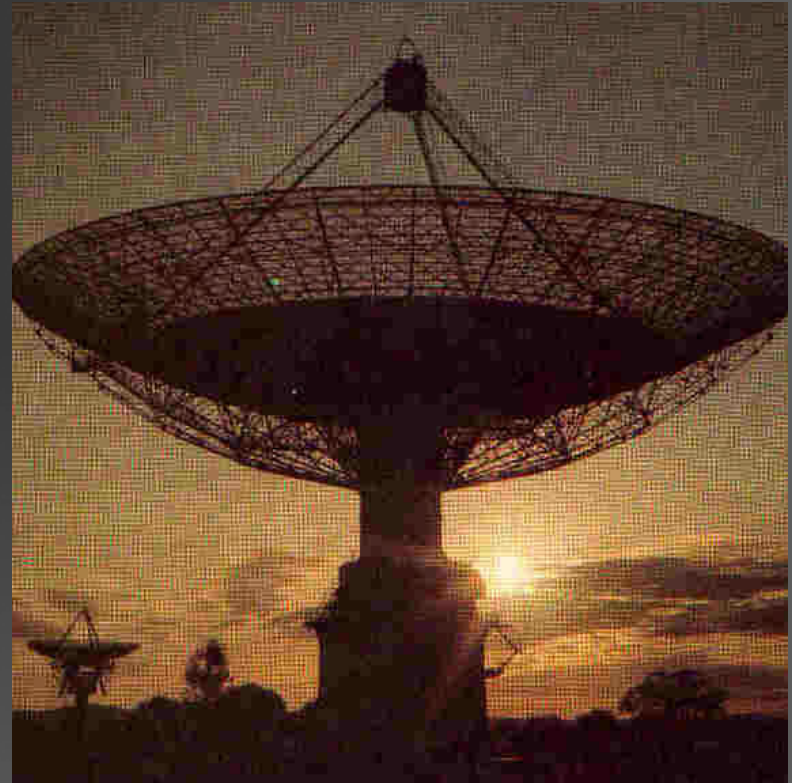
Summary on Astronomy & Bible

- Did the Jews have some special talent in science?
- No, their uninspired books are not impressive in this regard:
 - 1 Enoch 72:
 - The sun is a chariot driven by wind.
 - 3 Baruch 3:
 - The Tower of Babel built to drill a hole in heaven's dome!
- The Bible's explanation is that it is a revelation from the God who made the universe.

An ET Message from Your Maker

Seek the LORD while he may be found; call on him while he is near. Let the wicked forsake his way and the evil man his thoughts. Let him turn to the LORD, and he will have mercy on him, and to our God, for he will freely pardon.

Isaiah 55



The End

May you seek the author of the
universe and the Bible!