

PANORAMA

Earthly Myth

Amnon Goldberg responded to an article by S. Reich, correspondent for the *Jewish Telegraph* saying:

Your correspondent S Reich brought to mind the uncouth myth that the ancients up to Columbus all believed in a flat Earth. This was promulgated in the 1880s by evolutionists trying to prove their intellectual superiority over previous eras.

In fact, the sphericity of the Earth was known to all educated men since ancient times, including chazal - e.g. Yerushalmi Avoda Zara 3:1, Avoda Zara 41, Bereshit R 63, Bamidbar R 13, Esther R 1, Zohar III:10, Zohar Chadash 1:15. The Talmud gives the Earth's circumference correctly as 6,000 parsangs - 24,000 miles (Pesachim 94). Pythagoras, Parmenides, Eudoxus, Plato, Aristotle, Erastosthenes, Euclid, Archimedes, Strato and Ptolemy all knew the Earth to be a globe. This is not surprising since "the Greeks obtained their knowledge of astronomy from the works of the Bnei Yissachar" (Rambam, Hilchos Kiddush Hachodesh 17).

"It is he that sitteth upon the circle of the earth, and the inhabitants thereof are as grasshoppers" (Isaiah 40:22a).

Geocentrists are often equated to flat-earth advocates, as if that were the height of ignorance. It is clear from Dr. Goldberg's article that evolutionists have not only swallowed the myth of evolution, but also the myth of a flat earth.

A Not-so-gentle Rain from Heaven¹

In our catalogs, we call them hydrometeors. Now, the operative scientific term seems to be *megacryometeors*. They are "cryo" because they are mostly made of ice. They are certainly "mega" because some recent ice falls in Spain and Brazil weigh over 100 kilograms (220 pounds).

Megacryometeors are not particular about where they fall.

In January 2007, Tampa, Florida, a 13-kilogram (30 pounds) totaled a parked Ford Mustang. In April 2006, an ice chunk the size of a

¹ Quoted from *Science Frontiers*, no. 176, Mar-Apr 2008. Box 107, Glen Arm, MD 21057. Douglas, Ed, 2007. "Watch Out Below!" *New Scientist*, p. 48, December 28.

microwave oven dropped out of a cloudless sky and punched a 75-centimeter (30-inch) hole in a metal roof in Loma Linda, California.

Scientists have generally passed off these ice falls as frozen water from aircraft flying overhead. Indeed, some are just that. These ice chunks are composed of blue water, such as that used in aircraft toilets. One even contained a used diaper!

Science took more notice when, in January 2000, Spain was pelted with scores of ice chunks of soccer-ball-size and larger. This mega-megacryometeor bombardment of their country was enough for Spanish scientists to take a deeper look at this phenomenon that had been recorded for centuries.

The Spanish investigators plus cooperating investigators from other countries have concluded as follows:

- Many megacryometeors are too big to have been formed in any known meteorological process—even the strongest thunderstorms;
- Some have fallen from a cloudless, aircraft-less sky;
- Analysis of the water in legitimate megacryometeors reveals simply ordinary rainwater; that is, they are not extraterrestrial;
- Megacryometeors fell long ago before aircraft flew;
- The idea that large ice chunks come from aircraft-wheel wells is unrealistic because the retracted wheels are still spinning and any ice they pick up would be melted by the heat created by the braking of the wheels.

Unfillable Space²

Sometimes even mathematics encounters a seemingly trivial problem that is intractable no matter how many equations are thrown at it.

Take a can or box (liter-size or more) and fill it with identically sized marbles or ball bearings. Shake and pack it down as tightly as possible. No matter how much you work at it, or how many different-size cans and spheres you try, the unfilled spaces between the spheres will never fall below 36% of the container's volume.

No amount of mathematics has explained this universal irreducible limit. Some weakly suggest that the 36% limit is simply a “metastable” state, but they do not back this statement up mathematically. Random packing density of spheres never exceeds 64%, which is 10%

² Taken from the same *Science Frontiers* as above, p. 4. The article is based on “Pearl Jam,” *Nature*, 449:950, 2007.

lower than the most dense non-random or the crystalline configuration of packed spheres.

Thus, randomness ends in a fixed, immutable, imperfect state!

The difference between ordered and disordered sphere packing may have significance for motions of Planck particles in the firmament.

Another Hurdle to Cross For Space Travel

In past issues we have looked at some of the problems that must be solved to travel through space and to colonize other astronomical bodies. This particular problem has significance for very long space flights.

Bacteria are all around us and inside us. Many are necessary for our well-being, others are deadly. Is it possible that in space, these bacteria will take over?

To answer that question, astronauts took Salmonella, a food poison, for an 83-hour flight in the Space Shuttle, and there cultured it. In the weightlessness of space, the Salmonella turned into a form that was three times more virulent than the Salmonella on earth. Somehow, the space-bound bacteria sensed the weightless environment and covered its cells with a protective film that acted like armor plating. The biological armor made the space-borne cells highly resistant to antibiotics and thus even more virulent to man.

The Axis of Evil

Astronomers are puzzled that cooler areas of the cosmic microwave background (the temperature of the radiation that permeates all of space) are not distributed randomly. The cold spots and several other phenomena are all aligned along the axis of evil, which is a line pointing to the Great Attractor.³ They expected the spots to evenly distribute across the sky. What they find, as usual, is another violation of the Copernican principle which is that all the universe should look the same in every direction so that every place in the universe should look as if it is the center of the universe.

The Axis of Evil (AOE) points in the direction of the Virgo cluster of galaxies. The Virgo Cluster is the largest cluster of a chain of galaxy clusters that appear to ring the sky. That chain is called the Supercluster. Not far off the direction to the center of the Virgo cluster is a larger and denser cluster of galaxies called the Coma Clusters. The Great Attractor, on the other hand, is considered either to be the super-

³ Van Flander, Thomas, 2007. *Meta Research Bulletin*, 16(4):91.

massive Norma Supercluster of galaxies or the more distant Shapley Supercluster. (It could be both.) The closest superclusters such as the Local Supercluster, the Centaurus Wall, the Perseus-Pisces chain, and the Great Attractor, all intersect the Milky Way “Zone of Avoidance,” where the dust and stars of the Milky Way obscure all that lie beyond it. Thus Galactic extinction makes problematic a full investigation of their properties.

For geocentricity the significance of this lies in the observation that the universe appears to be out of balance about the earth; which supports geocentricity’s hypothesis that the yearly vibration of the universe is due to an uneven distribution of matter in the universe.

Outer Space Smells Like Fried Steak

NASA has asked astronauts what outer space smells like. The astronauts have responded that, upon first removing their helmets, they smelled fried steak, hot metal, or, as one astronaut put it, the welding of a motorbike.

The big story is now that NASA has asked Steven Pearce, the managing director of Omega Ingredients, which makes fragrances, to recreate the scent. NASA did so after hearing of his work creating smells for an art exhibition in July, one of which was the scent of the interior of the Mir space station. Mr. Pearce has also been asked to reconstruct the smell of Cleopatra’s hair from one of her hairs. “What I will do is try and recreate those particular odors. I’ll let NASA have samples and we’ll fine tune it until



Figure 1 Astronaut Gene Cernan is stained with moon dust, which all lunar astronauts report smells like spent gunpowder. Lunar dust is extremely fine and sticky.

I’ve got what they want,” said Pearce. “We have already produced the smell of fried steak, but hot metal is proving more difficult,” he said.

“We think it’s a high-energy vibration in the molecule.” In other words, the electrons orbiting their nuclei are kicked into higher energy levels (“orbits”) by high temperature.

Now the metallic smell could conceivably be caused by sputtering (collisions at the atomic level) due to the solar wind and cosmic rays hitting the metal or metallic paint of the shuttle and space suit. The steak smell is harder to explain.

To explain the steak smell, consider the following—and this is speculation, mind you. In Scripture, the burning of flesh on an altar is called a “sweet savour” unto the Lord. For instance, when Noah, after the flood, took one of each of the clean animals on the ark and sacrificed it on the altar, the Lord called it a sweet savour (Genesis 8:21). Likewise, when the ram was sacrificed at the priests’ dedication in Exodus 29:18, the burnt offering was said to be a “sweet savour.” Even when we cook a steak over an open fire the odor is sweet to the nose. Could it be that the smell of the earth, where Jesus came to sacrifice his life for our redemption, is the smell of a burnt offering, the scent of steak? After all, the Apostle Paul writes in II Corinthians 2:14-15 that: “...we are unto God a sweet savour of Christ, in them that are saved, and in them that perish: To the one we are the savour of death unto death; and to the other the savour of life unto life. And who is sufficient for these things?”

The Young Rings of Saturn

In 1980 and 1981, Voyagers 1 and 2 respectively flew past Saturn and photographed the planet, its satellites, and its rings. Instead of five rings, the Voyagers showed hundreds of rings, ringlets formed by resonances, and a zoo of unexpected phenomena. The results showed that the rings are much younger than the four to five billion years evolutionists assign to the planet. At the time the upper limit to the age of the rings was put at about 100 million years.

In time, astronomers discovered that many forces acted to disrupt the rings. These included radiation pressure (where sunlight pushes on the ring particles), meteoroid impacts, collisions with other ring particles, sputtering, and drag from Saturn’s atmosphere as particles move through it. In order to keep the faith in evolution, astronomers were forced to unlikely assumptions such as the break-up of a satellite well inside the Roche limit, the distance from Saturn where satellites would break apart under gravitational stress.

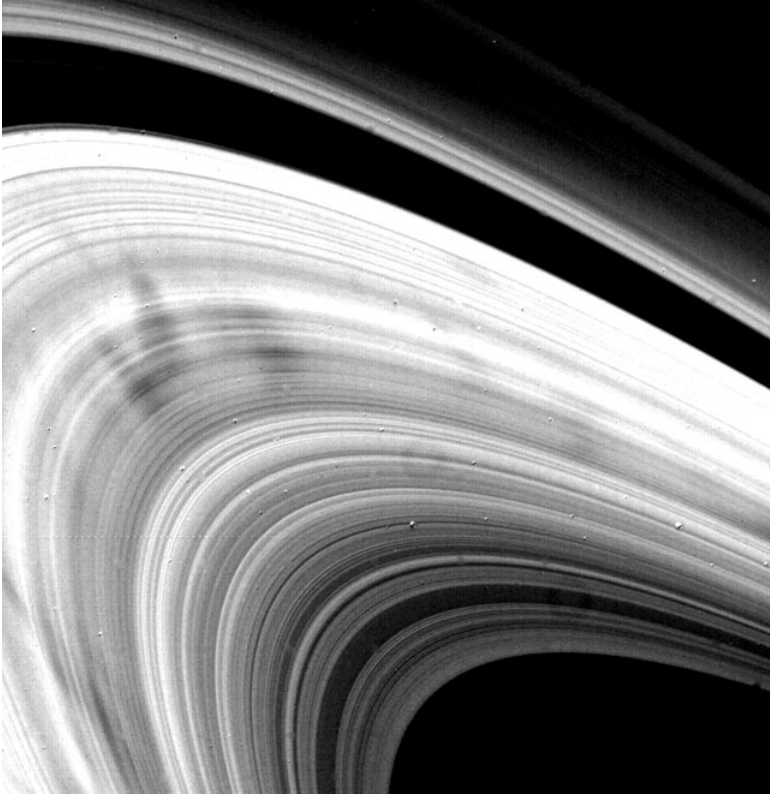


Figure 2: Resonances in the rings of Saturn cause dark and bright spots to form analogous to the troughs and peaks of water waves. Note moonlets below center and about half an inch from the right side and about a third of the way up from the bottom. Photo by Voyager II, 1981, Courtesy NASA.

At this time, the Cassini space probe has been orbiting Saturn for four years and the rings are even more mysterious than before. Moons such as the two in Figure 2 perturb the edges of the rings as they pass by. Such satellites, called “shepherding moons,” can braid the ring particles. The shepherd moons create structures that vary on time scales of hours to day. Inside the ring, particles gravitate towards each other, clump, and then bounce away only to repeat the process all over again to slosh in the rings. Cassini’s radio telescopes have even recorded the sound of meteors plowing into the rings. Adjacent rings may differ significantly in composition as if the materials and contaminants in the ring have not had time to disperse evenly over the rings. All these discoveries point to a young age for the rings; an age consistent with thousands of years rather than millions.

Stardust Fails Evolution Test

On 2 January 2004 NASA's Stardust spacecraft flew past Comet Wild 2.⁴ For several hours as Stardust flew past the comet, a collector made of aerogel, a lightweight porous glassy material, absorbed dust particles from the comet. On 16 January 2006 Stardust returned to earth and the collector capsule safely landed west of Salt Lake City.

Evolutionary astronomers studying the microscopic dust particles in the collector were shocked by what they found. They expected to find mostly interstellar grains (grains from between the stars, not from the solar system) that clumped together to form the cometary material. Although such clumped grains were found—albeit there is no proof they are of interstellar origin—one surprise was the presence of much larger grains made up of complex minerals that showed signs of shock and melting.

What was so shocking about that? Well, evolutionists have convinced themselves that comets were formed in the cold outer regions of the solar system from pristine material unpolluted by the not-yet-born sun. Indeed, the entire solar system is predicted to have formed from the same pristine gas and dust.⁵ As the principal investigator of the Stardust mission, Donald Brownlee of the University of Washington stated, "We are finding the hottest minerals in the coldest places." Once more, evolution fails to make an accurate prediction; indeed, evolution has a miserable track record as a predictive, scientific tool.

Of course, as any good attractive speculation, the evolutionist will overlook the fault and embellish his story to assuage doubt of its truth. Proposals to explain how the evolutionists' expected "pristine" interstellar material was "polluted" with heat-shocked mineral dust include X-winds (blasts of energy that ejected material from the inner solar system), turbulence (which would be expected to disrupt planetary and cometary formation, not add to it), and orbital instabilities (where the dust particles are pictured as flung out of the inner solar system by being gravitationally redirected by larger clumps of dust). The bottom line is that either the heavy elements making up the minerals were present in the original "pristine" material or else nuclear fusion had to happen as dust clumps collided with each other in the inner solar system before the sun's light was bright enough to blow the dust away from it to the outer regions of the solar system. The latter is deemed impossible, and the former does not fit the evidence.

⁴ Bouw, G. D., 2004. "Visit to a Wild Comet," *B. A.*, **14**(107):7. The comet's name is pronounced "vilt."

⁵ Forum, 1993. "The Nebular Hypothesis," *B. A.*, **3**(66):21.

Earth in a Giant Cosmic Bubble?

More years ago than we might care to remember, your editor wrote a series of articles on “missing mass.” Astronomers have two ways of estimating the mass of a star. One is kinematic where masses are computed from orbital considerations; the other uses the brightness of stars which is tied to the star’s mass via the Luminosity Function. When compare the two methods for nearby stars, we find that counting stars via the luminosity function gives about half the mass yielded by the kinematics of the stars method. When we look at the Milky Way or any other galaxy, the star count is about a tenth of the kinematic, orbital mass. For clusters of galaxies the “missing mass,” as the phenomenon was called, ranges from a factor of a hundred to a thousand in massive clusters. In recent years the missing mass has undergone a name change; now it has split into two names, “dark matter,” and “dark energy.” Today, the term “dark matter” has replaced “missing mass,” and dark energy has been invoked to explain why the expansion of the universe appears to be accelerating.

Now, it seems, that the earth might be located in an abnormal bubble of space-time that is particularly devoid of matter. This condition could account for the apparent acceleration of the universe’s expansion, for which dark energy currently is the leading explanation. Currently, astronomers think that 74% of the universe is made up of this dark energy, another 21% is dark matter, and normal matter makes up the remaining 5%. Until now, there has been no good way to choose between dark energy or the void explanation, but a new study outlines a potential test of the bubble scenario.

“If we lived in a very large under-density, then the space-time itself wouldn’t be accelerating,” said Timothy Clifton of Oxford University in England. “It would just be that the observations, if interpreted in the usual way, would look like they were.”

Astronomers first detected the acceleration by observing that one type of exploding star, Type Ia supernovae, seemed to be moving away from us faster than they should be. Type Ia supernovae are a useful distance indicator because the explosions always have the same intrinsic brightness. Since a light looks dimmer the farther away it is, it follows that when the supernovae appear faint to us, they are far away, and when they appear bright, they are closer. But if we happen to be in a portion of the universe with less matter in it than normal, then the space-time around us would be different than it is outside because matter warps space-time. Light traveling from supernovae outside our bubble would appear dimmer because the light diverges more than we would expect once it got inside our void.

“One problem with the void idea, though, is that it negates a principle that has reigned in astronomy for more than 450 years: namely, that our place in the universe isn’t special,” wrote one reporter about the bubble.

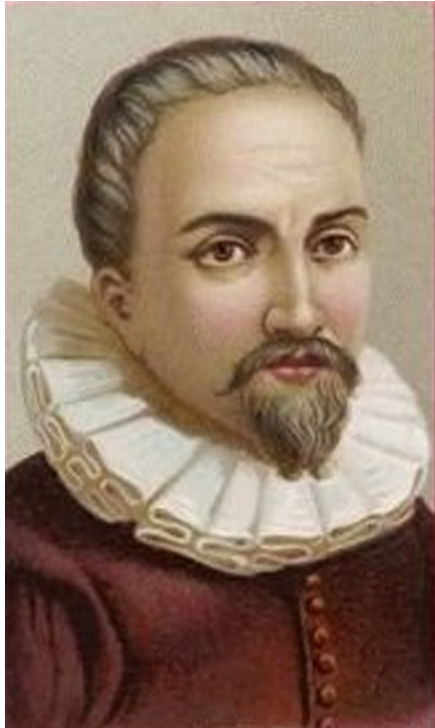
“This idea that we live in a void would really be a statement that we live in a special place,” Clifton said. “The regular cosmological model is based on the idea that where we live is a typical place in the universe. This would be a contradiction to the Copernican principle.”

So there you have it, dear reader; still another datum pointing to the geocentric universe. We present several of these every year, and some may object that we are biased, which is true, but no new evidence *for* the Copernican Principle makes it into print. Your editor would print it and critique it if such observation were printed.

Galileo, the Telescope, and the Year of Astronomy

The year 2009 has been designated as the International Year of Astronomy (IYA). It was in 1609, 400 years ago, that Galileo first looked through a telescope. Ever since, the telescope has been the principal instrument of astronomical research. We know that Galileo made his own telescope from the pattern of its Dutch inventor, but was Galileo really the first to use it for astronomical purposes?

Figure 3: German spectacle maker Hans Lippershey emigrated from Germany to Zeeland, Netherlands, and there invented of the modern telescope in 1608.



Credit for the invention of the telescope is usually given to Hans Lippershey (1570-1619). Lippershey was born in Wesel, Germany and emigrated to Middelburg, the capital of Zeeland, the southwestern most province of the Netherlands some time before his marriage in 1594. It is ru-

mored that two of his children were playing with junked lenses, put two together and found out that a rooster-shaped weathervane on a church steeple appeared sharper and twice its normal size. Lippershey was likely not the first to have used two lenses that way, but he was the first to try for a patent. Eventually the patent was rejected because it could not be kept secret. Lippershey made quite a bit of money making telescopes for the Dutch government.

Recently, as a result of IYA publicity, attention was drawn to Englishman Thomas Harriot (1560-1621) as most likely the to train a telescope on a celestial object. Harriot, a prominent mathematician and friend of the explorer Sir Walter Raleigh, acquired his first “Dutch trunk” (telescope) from the Netherlands in 1609. He promptly turned it on the 25-day old moon on July 26, becoming the first person documented to observe and sketch an astronomical object after viewing it through a telescope. The crude lunar sketch shows a rough outline of the lunar terminator (the division between night and day on the moon) and includes the dark < area in Oceanus Procellarum by the craters Copernicus and Kepler and, above that, the crater Grimaldi (Figure 4).

Harriot went on to produce more maps from 1610 to 1613. Not all of these are dated, but they show an increasing level of detail. By 1613 he had created two maps of the whole moon, with many identifiable features such as lunar craters that are depicted in their correct relative positions.

Galileo is often credited as the first to view astronomical objects through a telescope but Harriot is certainly earlier. Harriot dated his drawing as 26 July 1609. Galileo did not date his drawings so that historians of astronomy have had to use indirect methods to date his drawings. We do know that news of the invention of the telescope reached Galileo in June or July of 1609 and that it took two or three months for his lens grinders to make a telescope for him. The earliest date for any of Galileo’s drawings to be made is 2 October 1609. The consensus, however, is 20 November 1609. In either case, Harriot was first.

But neither Harriott nor Galileo was the first to use a telescope to look at the heavens. A contemporaneous pamphlet reporting the events of Lippershey’s introduction of the telescope reports that it was immediately pointed towards the heavens. The very first edition of the pamphlet probably appeared in late September 1608. Quoting an English translation of the pamphlet, “... & even the stars which normally are not visible for us, because of the scanty proportion and feeble sight of our eyes, can be seen with this instrument.” Unfortunately, the writer (unknown, but a witness to the demonstration of the first telescope) does not say WHO looked at the stars that September. But it was certainly before Harriott or Galileo.

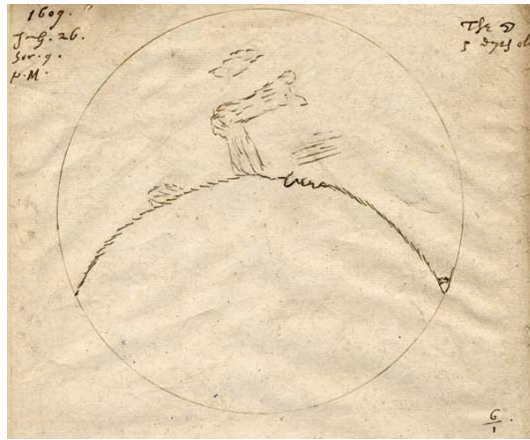


Figure 3: (Top) The first sketch of the moon through a telescope dated July 29, 1609. (Bottom) Harriot's 1613 map of the moon; the best in print for decades thereafter.