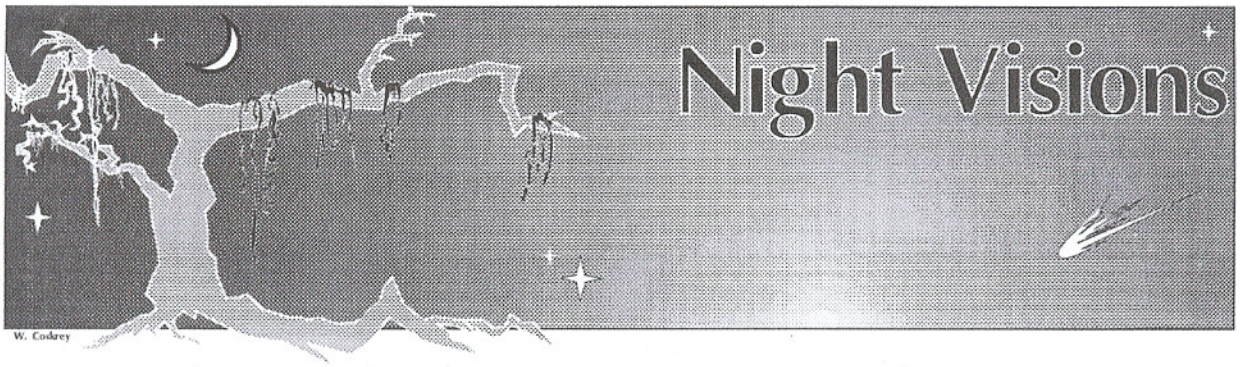


Newsletter of the Baton Rouge Astronomical Society

March 2010

The Next Meeting of the Baton Rouge Astronomical Society will be March 8, 2010 at 7 PM.

We will be meeting at the Highland Road Observatory. The meeting starts at 7 PM. Please arrive a few minutes earlier.

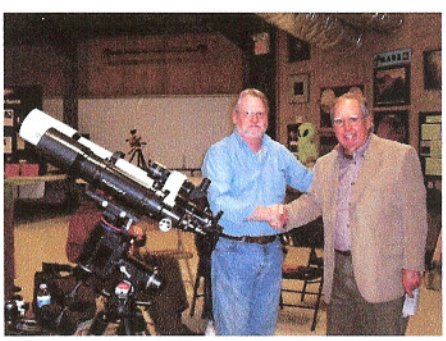
PROGRAM NOTES: ***Thar She Blows! U Scorpii Erupts***

Hi Everyone,

I know we all live ON a rock in space, but unless you've been living UNDER a rock, you've probably heard about Dr. Brad Schaefer's prediction about the recurrent nova U Sco coming to fruition. Those of you that attended the February meeting got a teaser from him on this month's presentation which is entitled, *The Recurrent Nova U Sco in it's Current Eruption.* Presenting along with him will be Ms. Ashley Pagnotta. Ms. Pagnotta holds degrees in Math and Physics from Texas A&M and is in her third year of graduate work at LSU. She has been assisting Dr. Shaefer in his work on recurrent novae.

This event has already received attention from *Astronomy Magazine* and *Sky and Telescope*. It is even more special due to the fact that one of the people involved (Dr. Brad Schaefer) is one of our members! We hope to see many of you at the Observatory on Monday, March 8th to congratulate them both and to listen to what is sure to be a great presentation. Hope to see you there!

Ben Toman, BRAS Vice-President



Our club president, Marvin Owens, welcomes the speaker for our Feb. 8 meeting . Mr. Lon Shelton, demonstrated the equipment and software he uses in his own pursuit of astrophotography. He left copies of the software he uses for club members to try out. Check at our next meeting with the club president on how you can get a copy for yourself.

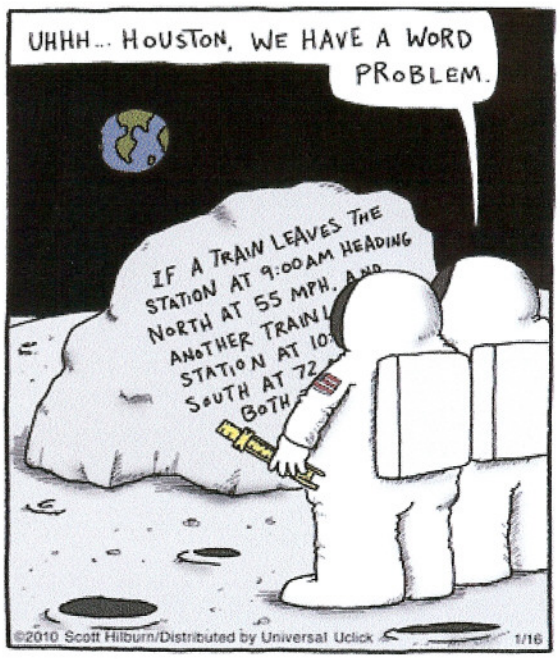
March President's Message

$$N=R^*I_p\ N_e\ I_l\ I_I\ I_c\ L$$

Have you ever seen this formula before? You may think that I have gone bonkers for even talking about a scientific formula in the context of a monthly President's message. However, this is not just any old formula but is a prime formula for determining how much life there may be in the universe. You see, it was just 50 years ago that Frank Drake, an astronomer at Cornell University began, in serious, to look at the possibility that there is other life in our universe. This is his formula, the Drake Formula.

It was in 1960 that the Search for Extraterrestrial Intelligence, or the SETI project began. Although they have not yet found any such intelligence, I believe the possibility of life must be an obvious conclusion of anyone who thinks about the subject for a few minutes.

The Drake Formula, basically, is an attempt to consider the number of stars that may have planets that could harbor life, the fraction of habitable planets, etc. in an attempt to mathematically determine the odds of other life in our universe. With the billions of galaxies and billions of stars in our sky, is there any doubt that the odds are that there is intelligent life in space. We sometimes have doubts about intelligent life here on Earth when we read what our politicians have done with our tax money. However, it is an almost foregone conclusion that there must be life of some sort in the universe.



How will we find out if there is life? Surely it will not be by cutting the budget for NASA and for other space exploration. It will be by actively pursuing space science and exploration to find out what this whole space stuff is about. We cannot put our heads in the sand and expect to be a technologically advanced nation. The money for space is not being spent in space but is spent here on Earth providing jobs to people on Earth. How else can we help the economy, provide jobs and still reach out and try to touch the face of God?

Marvin Owens
President

A Request from Merrill Hess

I finally got a reply from the Girl Scout Activity Coordinator, who requested our presence at their annual event at Camp Marydale, in St. Francisville. It will be on March 27. They would like us to do some kind of educational daytime activity on an astronomy topic. The time could be coordinated with Mr. Shipp. No stargazing. Set up a display, do a demonstration, lecture, slide show, whatever we want. The contact information is at the bottom, plus a map and schedule attached.

I believe we have a couple of members who live in the St. Francisville area who may be able to cover this but I don't know how to reach them.

Pictures from the first Hodges Gardens Star Party 2009

The Second Annual Hodges Garden Star Party is March 10-13, 2010.

Although the rain gods did there best to conspire against us, the 1st Annual Hodges Gardens Star Party turned out to be a success.

Most of the star party-goers with really liked the new location. They said the field was one of the "prettiest" observing fields they had ever seen. It looked like a golf course. With almost 50 people on the field, we still only used a small fraction of the available space. It was nice to have plenty of room to spread out and plenty of amenities nearby.

Most people camped on the field, but many stayed in the cabins in the park. Quite a few folks stayed in the Emerald Hills Motel just outside the park. The restaurant at Emerald Hills was also very popular with all of us.

Tents and telescopes set up on the observing field.

Clayton Jeter from Houston, Gary Parkerson from Shreveport, and Chase Haley of Slidell enjoy the time to just visit.

BRAS members Steve Richard and Barrow Leake discuss who knows what as they prepare for the evening's viewing.

How Dinosaurs became extinct

(The very first "senior moment"...?)

Do not get left behind.
Remember the meeting is March 8 and the Star Party is March 10 – 13.

MESSAGE FROM HRPO

I suppose what most of us are thinking about is Hodges Gardens. I'll be up there Wednesday and Thursday. It'll be my first time as last year's Wednesday and Thursday didn't fare too well. It will be interesting to see how big a draw Hodges Gardens is in 2010, especially considering RVs will be allowed right off the field. Hope to see y'all there!
Christopher

CALL FOR VOLUNTEERS: HRPO

International Astronomy Day: Sat, 24 April from 3pm to 11pm
As many volunteers as possible. I'm not joking. 488 visitors attended last year's IAD. HRPO staff will need assistance with selling raffle tickets, staffing rides, physical science demos, portable telescopes and the like.

CALLS FOR VOLUNTEERS: MARS VAN

Bluebonnet Swamp Nature Center: Saturday, 13 March from 9am to 4pm /// *Three volunteers needed, each for a three-hour shift.*
Ascension Parish Library—Gonzales Branch: Thursday, 25 March from 5pm to 8pm /// *One volunteer needed.*
Baton Rouge Zoo: Sunday, 28 March from 9:30am to 5pm /// *Three volunteers needed, each for a three-hour shift.*

HRPO FRIDAY NIGHT LECTURE SERIES

*5 MARCH: "A Look at El Niño"
Once again, WAFB Chief Meteorologist Jay Grymes returns for another fascinating Earth science talk. This time, the subject is the creation of unusually warm ocean temperatures in the Equatorial Pacific—known as "El Nino"—and its impact on south Louisiana.

*12 MARCH: "Beliefs about UFOs"
Very often, an astronomer is asked whether he or she thinks there is life on other planets. Then...there is that much different question: "Do you believe aliens have visited the Earth?". C. Gary Pettigrew, an adjunct instructor in LSU's Department of Philosophy and Religious Studies, gives the audience an intriguing perspective on why some of us want to believe the answer to that question is "yes".

*19 MARCH: "The Story of Ranger 9"
The Ranger Project was this country's first attempt to send probes to the Moon. The first years were filled with failure and frustration. Incredible success, however, was in Ranger's future, and on 24 March 1965 a nationwide audience watched live as Ranger 9 purposefully crashed into the Moon within the crater Alphonsus. It sent back over 5000 images during the last minutes of its three-day trip. Pictures from the Ranger spacecraft were one thousand times better than what could be created by Earth-bound telescopes!

*26 MARCH: "Quantum Physics"
Quantum physics is the study of single particles and small groups of particles. At this level, everyday matter shows...well, some very strange behavior. We'll shrink into the region of ultracold atoms and high-temperature superconductors with LSU physics professor Daniel Sheehy.

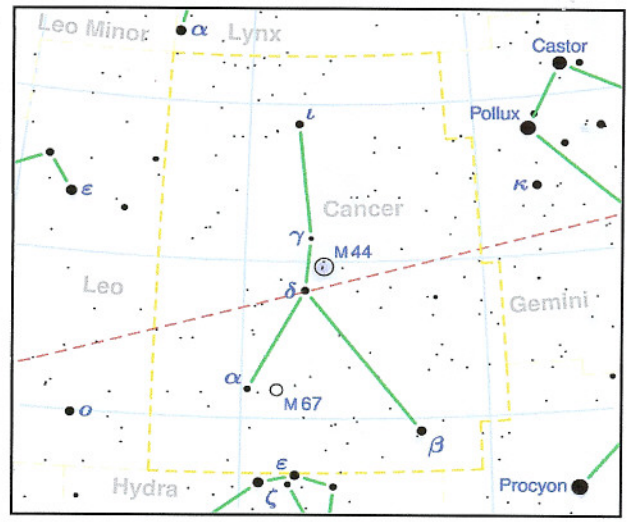
LSU PHYSICS COLLOQUIA

All in Nicholson 109 at 3:40pm

11 March: "Optimal Quantum Memory with Atomic Ensembles"
Irina Novikova, William and Mary College
18 March: "Table-Top General Relativity"
John Howell, University of Rochester
25 March: {TBA}
Marc Buie, Southwest Research Institute

BRAS Observing Notes
March 2010

Cancer: The Crab



The constellation Cancer is not named after that dreaded disease but rather is the Latin word for Crab. It is a small and faint constellation between Gemini and Leo that has been represented by various types of water based creatures. The Persian astronomer Albumasar is reported to have even depicted it as a crawfish.

This crab is part of the story of the Twelve Labors of Hercules. It is said that while Hercules was fighting the Hydra he was attacked by the Crab as ordered by the goddess Hera. Hera did not like Hercules and was trying to distract him during the fight. The Crab ultimately failed in this attempt and was crushed underfoot by Hercules. For the heroic, but pitiful effort, the Crab was given a place in the heavens albeit a dim one because it could not accomplish its task.

Position in the Sky

Right Ascension: 9 hours Declination: +20 degrees

Named Stars

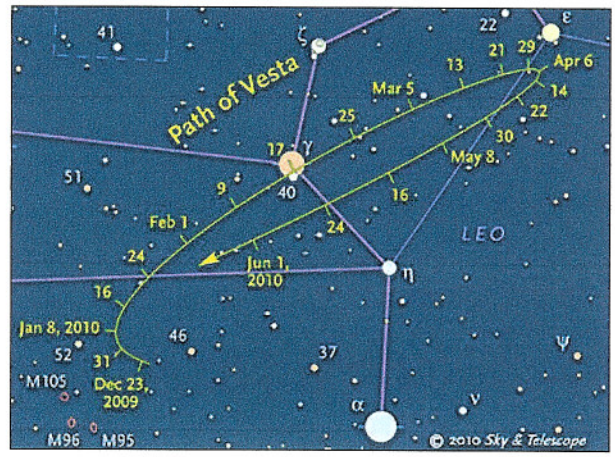
α Acubens, β Al Tarf, γ Asellus Borealis, δ Asellus

Deep Sky Objects

M44 (Beehive Cluster)

M67 (open cluster)

Vesta in View



The asteroid Vesta is a great yet challenging target for binocular astronomy this month. Vesta will reach opposition on February 17th and will be shining at magnitude 6.1 within the constellation Leo.

BRAS Dark Sky Site Viewing Dates
March 13th 2010 Primary, March 20th 2010 Secondary
April 10th 2010 Primary, April 17th 2010 Secondary

A map of the BRAS Dark Site can be viewed at
http://www.bing.com/maps/?v=2&sp=Point.p1wwxc7c69n1_BRAS%255fDark%255fSky

For more information check out the BRAS website at http://www.brastro.org

Directions to BRAS Dark Sky Site:

From Baton Rouge take I-10 west about 19 miles from the Mississippi River Bridge. Take exit 135, LA Hwy 3000, to Ramah-Maringouin exit. Go north about 100 feet. You will see a bait shop on left, turn left here. Go about 200 feet, you will see a gas station on right, turn right. Go about 400 feet until you come to the levee, turn left (south). Go 1.6 miles down the gravel road along the levee. You will see a road on right going up onto the levee, turn on this road and either stop on top of the levee or directly on the other side.

Art Barrios,
Observing Chairmanart.barrios@cox.net

WARNING! - WARNING! - WARNING!

Pilots cite danger of laser pointed at aircraft

By Gene Warner and T.J. Pignataro, News Staff Reporters
October 3, 2009 The Buffalo New

It may have seemed like a good idea -- just a harmless stunt -- at the time.

But the pointing of a green laser at both a FedEx airliner and the Erie County Sheriff's helicopter multiple times Thursday night has led to felony criminal charges against three men, and a strong rebuke from a group of top local officials today.

The pilot of the sheriff's Air One helicopter, Capt. Kevin Caffery, cited the risks people take if they point a laser into a pilot's eyes.

"There's a good chance you're going to wind up in jail," he said following an afternoon press conference. "At the worst, you could bring down an aircraft and kill a lot of people."

Caffery was joined today near the Erie Basin Marina by Mayor Byron W. Brown, Police Commissioner H. McCarthy Gipson and Sheriff Timothy B. Howard. Those officials praised the efforts that led to the arrest of three individuals.

"Due to the collaboration and excellent police work, we were able to apprehend three individuals on the ground in the Kaisertown area of the city," Brown told reporters. "This is a strong partnership, a partnership that already is paying dividends."

Timothy J. Voigt, 42, his son, Eric Voigt, 20, both of Griswold Street, and Bradley J. Campbell, 28, of Barnard Street, all face multiple counts of felony reckless endangerment.

The green laser first was pointed at a FedEx plane at about 8:45 p.m. Thursday. Those pilots contacted air-traffic controllers, who alerted Buffalo police. Then, as the sheriff's Air One helicopter searched the Kaisertown neighborhood, it was "hit" six times by the laser.

Caffery compared the laser light to a lightning strike, saying it lit up the entire aircraft. A direct hit into your eyes can be blinding, he and others pointed out.

"It was a slight disorientation and really a burning sensation in your eyes," Caffery said. "I looked away and turned the aircraft away from it."

Co-pilot Art Litzinger then used an infrared camera system to pinpoint the laser's location and help Buffalo police make the arrests.

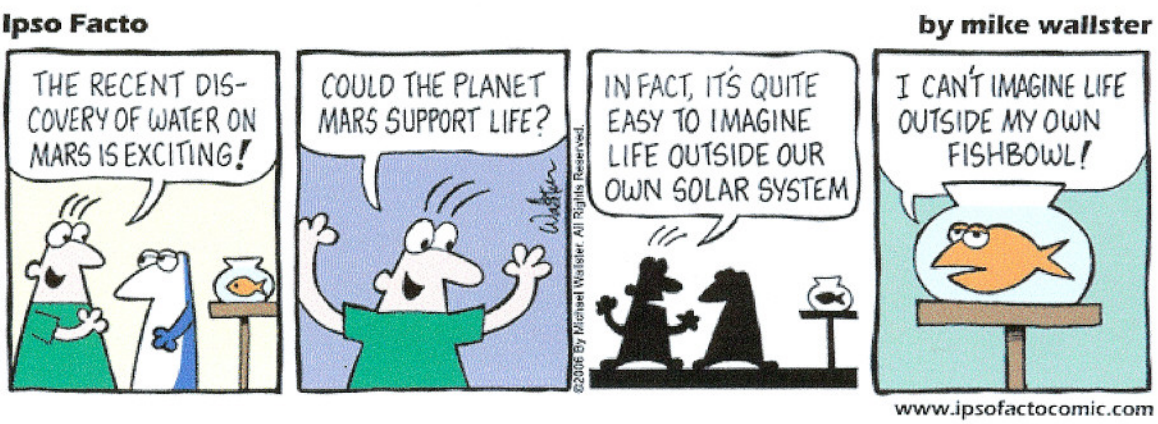
Howard called the laser pointing into pilots' eyes "extremely dangerous," citing studies that have been done for about the last 10 years.

"This wasn't just a playful stunt, [even though] that may have been on the minds of the individuals," he said. "Especially during takeoffs and landings, this could have caused a plane to crash."

Thursday night's incident forced authorities to close a runway at Buffalo Niagara International Airport, because the sheriff's helicopter was forced to fly into otherwise restricted airspace.

Law enforcement officials cited possible federal charges in this case.

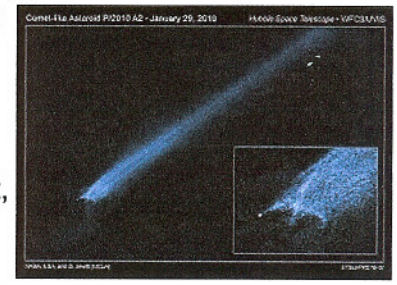
"Right now, this crime is being reviewed by the FAA and the FBI," Gipson said.



gwarner@buffnews.com and tpignataro@buffnews.com

Hubble Sees Suspected Asteroid Collision

February 2, 2010: NASA's Hubble Space Telescope has observed a mysterious X-shaped debris pattern and trailing streamers of dust that suggest a head-on collision between two asteroids. Astronomers have long thought that the asteroid belt is being ground down through collisions, but such a smashup has never been seen before.



The object, called P/2010 A2, was discovered by the Lincoln Near-Earth Asteroid Research (LINEAR) sky survey on Jan. 6. At first, astronomers thought it might be a so-called "main belt comet"--a rare case of a comet orbiting in the asteroid belt. Follow-up images taken by Hubble on Jan. 25 and 29, however, revealed a complex X-pattern of filamentary structures near the nucleus:

"This is quite different from the smooth dust envelopes of normal comets," says principal investigator David Jewitt of the University of California at Los Angeles. "The filaments are made of dust and gravel, presumably recently thrown out of the nucleus. Some are swept back by radiation pressure from sunlight to create straight dust streaks. Embedded in the filaments are co-moving blobs of dust that likely originated from tiny unseen parent bodies."

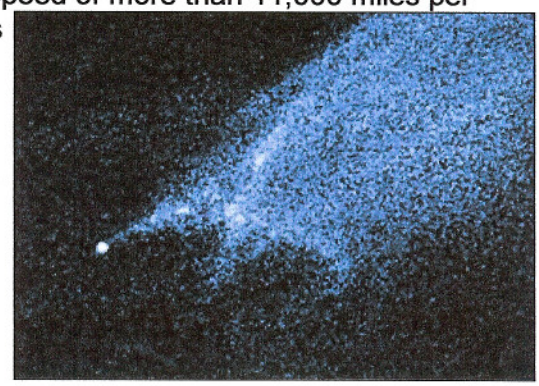
Hubble shows the main nucleus of P/2010 A2 lies outside its own halo of dust. This has never been seen before in a comet-like object. The nucleus is estimated to be 460 feet in diameter.

Normal comets fall into the inner regions of the solar system from icy reservoirs in the distant Kuiper belt and Oort cloud. As comets approach the sun and warm up, ice near the surface vaporizes and ejects material from the solid comet nucleus via jets. But P/2010 A2 may have a different origin. It orbits in the warm, inner regions of the asteroid belt where its nearest neighbors are dry rocky bodies lacking volatile materials.

This leaves open the possibility that the complex debris tail is the result of an impact between two bodies, rather than ice simply melting from a parent body.

"If this interpretation is correct, two small and previously unknown asteroids recently collided, creating a shower of debris that is being swept back into a tail from the collision site by the pressure of sunlight," Jewitt says.

Asteroid collisions are energetic, with an average impact speed of more than 11,000 miles per hour--five times faster than a rifle bullet. The main nucleus of P/2010 A2 would be the surviving remnant of this so-called hypervelocity collision.



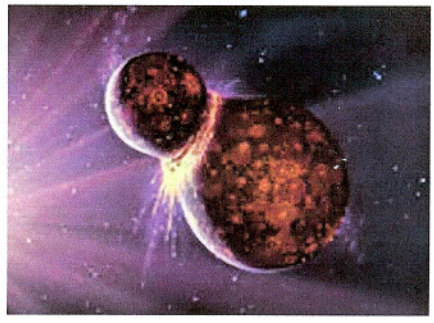
Right: A full-context view of P/2010 A2. Credit: NASA, ESA, and D. Jewitt (University of California, Los Angeles). Photo No. STScI-2010-07

"The filamentary appearance of P/2010 A2 is different from anything seen in Hubble images of normal comets, consistent with the action of a different process," Jewitt says. An impact origin also would be consistent with the absence of gas in spectra recorded using ground-based telescopes.

The asteroid belt contains abundant evidence of ancient collisions that have shattered precursor bodies into fragments. The orbit of P/2010 A2 is consistent with membership in the Flora asteroid family, produced by collisional shattering more than 100 million years ago. One fragment of that ancient smashup may have struck Earth 65 million years ago, triggering a mass extinction that wiped out the dinosaurs. But no such asteroid-asteroid collision has been caught "in the act"--until now.

At the time of the Hubble observations, the object was approximately 180 million miles from the sun and 90 million miles from Earth. The Hubble images were recorded with the new Wide Field Camera 3 (WFC3).

Moon Has Iron Core, Lunar-Rock Study Says



Brian Handwerk
for National Geographic News
January 11, 2007

Deep down, the moon may be more like Earth than scientists ever thought.

A new moon-rock study suggests the satellite has an iron core. The findings add weight to the theory that the moon formed from debris thrown off when a Mars-size object collided with a young Earth.

"This is the most positive evidence so far that the moon contains a core," said Larry Taylor, director of the Planetary Geosciences Institute at the University of Tennessee in Knoxville.

"It's looking more like a planet every day."

The moon's core could be a clue to its ancient origins, which have long puzzled astronomers.

"Our moon is too big to be a moon," Taylor said. "It's huge compared to the moons we see around other planets, so it has always been suspected that there was something strange in its origin."

The Big Whack

The leading moon-creation theory among astronomers is known as the "giant impact" or "big whack" theory. An object about the size of Mars—half the size of Earth—slammed into our planet very early in its formation, the theory says.

"This impactor hit, and everything was thrown every which way," Taylor said. "Material was shattered, melted, vaporized, and thrown out into orbit. Some of that material condensed and aggregated into the moon."

It's believed that some of the impactor's remains became part of the moon, as did large parts of early Earth's mantle (the layer between core and crust), which were hurled spaceward.

Rock samples from NASA's Apollo 15 and Apollo 17 moon missions of the early 1970s have now shed more light on the moon's origins, according to Taylor and colleagues' study, to be published in the tomorrow's issue of the journal *Science*.

The group studied a type of lunar rock called mare basalt, which is believed to have been created deep in the moon's mantle and have retained signatures of that region. Mare basalt hails from vast, dark, flat areas of the moon's surface called mares. It is dense, dark gray, and likely formed from cooled magma.

Sinking Feeling

The moon rocks suggest that the lunar mantle is very low in elements that bond easily with iron, such as gold and platinum—like Earth's mantle, but with even lower levels of those elements.

"What happens during the formation of any terrestrial planet is that it undergoes a melting state early in its formation," Taylor said. "In that state you get the separation of metallic iron into a core."

When cores formed on Earth and other terrestrial planets these iron-loving elements were largely scavenged from the silicate mantle and transferred down into the metallic core, which would explain the relative lack of these elements in both Earth's mantle and the moon's.

"We must have had a core form [in the moon] to have [iron bonding] elements at the [low] levels we see now," Taylor said. "That's the same thing that happened on Earth, Mars, Venus, and Mercury—the terrestrial planets."

Though he doesn't discount this idea, Richard Walker, a geologist at the University of Maryland in College Park, sees a second option.

"It could be that the [amount] of these elements in the silicate portion of the impactor and the proto-Earth were quite low at the time of impact, so that when the moon formed, it simply did not contain a high abundance of the elements in question," said Walker, who was not involved in the study.

Earth's iron core can be identified through the measurements of sensitive seismographs scattered all over the planet.

During earthquakes these vibration monitors can help determine the content of the Earth's layers, based on how the movement of those layers effects waves passing through the planet.

Seismic equipment on the moon is not sufficient to recover such information, though moonquakes commonly occur.

"In the case of the moon, we've never been able to find distinct evidence for [a core]," Taylor said, "although we've always had our suspicions."

BATON ROUGE ASTRONOMICAL SOCIETY

You can pay your Membership Dues at our next Meeting or Send your Dues to:

Baton Rouge Astronomical Society, inc.
c/o Bob Sinitiere, Treasure,
14558 Cottinham Ct.,
Baton Rouge, LA 70817-3543

If you have questions about dues or receiving your News Letter call Bob at 755-2079

♦ Regular Membership	$20.00	$_____
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How do you wish to recieve the Society's Newsletter *Night Visions*-
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PLEASE CHECK THAT YOUR ADDRESS AND E-MAIL ARE CURRENT AND CURRENT.

Meetings are usually held the second Monday of each month at 7pm, except for June and July. Most meetings are held at the Highland Road Observatory.

*All donations to the *Baton Rouge Astronomical Society, Inc.* are tax-deductible under IRS Section 501(c)(3) & (a)(1) and also 170(b)(1)(A)(vi).
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