



# The Prairie Astronomer

1-81

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## Scientists: Red Planet Got the Jump on Earth

Two Harvard professors say recent space probes of Venus and Mars have provided information that gave them a new theory about how our solar system might have been formed.

By measuring the amount of particular gases found on Mars, Earth and Venus, they have determined Mars was formed first, then Earth, then Venus.

"This is sort of like a complex detective story but now we think we have a puzzle solved," said Michael McElroy.

He and fellow Professor Michael Parther explained how vastly different amounts of "noble" gases--such as argon, neon, krypton and xenon--could exist on planets that most astronomers believe were formed from the same cloud of dust and gas.

McElroy said the relatively small amounts of the noble gases on Mars suggests that it formed first when its materials were melted and condensed by heat-producing Aluminum-26, expelling most of the gases originally trapped during condensation.

By the time Earth and Venus formed, most or all of the aluminum-26 already had disappeared, and both planets were able to hold onto the gases, which were frozen into the rocks.

The scientists said our solar system was formed when a giant star exploded, sending a shock wave and a

load of debris through a huge passing cloud of dust and gases.

The explosion caused the cloud to collapse and, as it began spiraling inward, it formed a disc of hot materials that eventually formed planets, the professors said.

"These three planets have gone through some rather different histories, from the point of view of their gas content," McElroy said.

"Mars melted and differentiated (expelled its gases) very early", he said. "The earth is intermediate, having not melted (but also not having collected much of the solar wind material). And Venus never differentiated. Its material sat around trapping tremendous amounts of solar wind gases, compared to its companions."

He said space craft probes to Mars and Venus were crucial in putting the new theory together.

"There is no way we could have found this out by looking at only one planet," he said.

## January Meeting

*The January meeting of the Prairie Astronomy Club will be held at Hyde Observatory on Tuesday night, January 27, at 7:30 p.m.*

*The program will consist of two  
(Continued to Page 8)*

## **PRESIDENT'S REPORT:**

Are you old enough to remember 1960? Do you remember the feeling of national pride and purpose when President Kennedy committed this country to an all-out effort to land a man on the moon within ten years? The excitement we felt at the early Mercury-Atlas launchings...the early morning risings so we could watch the televised liftoffs of the Gemini-Titans...the fascination of the first pictures of Earth from space, and men floating outside their space capsules...the overpowering feeling of awe when that first big Saturn V lifted off...the pride we felt as we watched Americans walking about on the surface of the moon? I really feel sorry for the young Americans of today. Our country has had nothing like that since then.

The last time man set foot on the moon was in 1972. We abandoned Skylab in space in 1974, and you know what's happened to it since then. Our last manned space flight was just a political handshake--the joint Apollo-Soyuz flight in 1975. Oh, sure, we've just had the Voyager flybys, but even those were launched way back in 1977. The Space Shuttle is two years behind schedule and still faltering. Face it, our nation's space program is dying.

Meanwhile, what's happening elsewhere in the world? The Russians are maintaining a permanent, manned space platform in orbit, manning it with Russian, Polish, Vietnamese and Cuban cosmonauts, and resupplying it with robot ships. It's been up there over three years now and has housed 15 crews. The Russians have also just flown a new re-designed three-man space craft, the Soyuz T-3.

The European Space Agency has started using its Ariane launch system--a direct competitor for the satellite launching business that our Space Shuttle hopes to attract. (In fact, some countries and agencies which had planned to launch payloads on our early shuttle flights have since given the contracts to the ESA.) The ESA is also

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## PRESIDENT'S REPORT (Continued from Page 2)...

going ahead with plans for its own exploration spaceflight to Halley's Comet (this, after our Congress refused to vote funds to pay for a joint NASA-ESA comet explorer). India, China, France, Japan, and Great Britain have all used their own rockets to launch their own satellites into orbit. We have lost our leadership and, if we don't keep up, the rest of the world will gladly leave us behind in space.

NOW is the time for us to do something about it. The Voyagers have generated a renewed interest in space exploration. By the end of this year, hopefully, the Space Shuttle will be in operation. There is a new President in the White House and a new Congress in Washington. Now is the time to impress upon the people in power the need for a national space effort.

At this month's meeting, we will be asking all our members to sign a letter written by our club and to be sent to President Reagan and all of our state's representatives in Washington, asking them to support the space program.

If all our members and their families would sign this letter, we would have over 150 signatures. Please come to the meeting and sign this letter. If you cannot attend, write a letter of your own. It does make a difference. We need the knowledge, technology, and national pride that a strong space program will bring. Please help.

--RON VEYS

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## "Heaviest" Star May be Lurking In Nearby Galaxy

New evidence indicates a nearby galaxy may contain the heaviest star ever discovered, three University of Wisconsin astronomers say.

The scientists reached that conclusion after studying data from the U.S.-launched, internationally-administered International Ultraviolet Explorer satellite. The satellite gathers light at wavelengths that can-

not penetrate Earth's atmosphere.

The scientists propose that a massive star, about 30 times heavier than any other star known, is the only way to explain a high-speed wind of ionized gas being blown out of a cloud of glowing gas known as the Tarantula Nebula in the Large Magellanic Cloud, a nearby galaxy.

(Continued on Page 8)

31.	John B. Lortz	1034 So. 35th Ave.	Umana, NE 68105					
32.	Dick McCann	2425 Sewell St.	Lincoln, NE 68502	F	4/81	477-4947		
33.	Dr. R. A. Manthey	61st & O Gateway	Lincoln, NE 68505	F	9/81	489-3237		
34.	Jeanne Miller*	4148 N.W. 49th St.	Lincoln, NE 68524	R	10/81	470-2091		
35.	Kris Miller	1149 So. 17th St.	Lincoln, NE 68502	R	5/81	435-4051		
36.	C. L. Moore	1140 No. 79th St.	Lincoln, NE 68505	R	9/81	466-1886		
37.	Earl Moser		Hickman, NE 68372	R	9/81	792-2260		
38.	John Motsinger	4741 Southwood Dr.	Lincoln, NE 68512	R	2/82	423-5959		
39.	Daniel Neville	410 So. 28th St.	Lincoln, NE 68510	R	11/81	432-7772		
40.	William F. Norris	2832 Manse Avenue	Lincoln, NE 68502	R	1/82	435-0267		
41.	Mark L. Powell	3310 Cooper St.	Lincoln, NE 68506	R	8/81	489-6114		
42.	Carroll Reinert	3895 Sheridan Blvd.	Lincoln, NE 68506	R	1/82	483-1093		
43.	Curtis Roelle	64 W. Deer Park Rd. #203,	Gathersburg, MD 20760-R-3/81					
44.	Zygmund S. Rydz	1625 Adams St.	Ashland, NE 68003	R	9/81	944-3554		
45.	Bryan Schaaf	300 No. Coddington St.	Lincoln, NE 68528	R	2/82	475-5294		
46.	Ed Schmidt	2710 Ryons St.	Lincoln, NE 68502	R	9/81	435-8676		
47.	Terry Smith	1900 So. 49th St.	Lincoln, NE 68506	R	6/81	488-2561		
48.	Craig Sosin	3401 Hillside St.	Lincoln, NE 68506	R	11/81	488-0737		
49.	Merton E. Sprengel*	4522 Hillside St.	Lincoln, NE 68506	F	9/81	489-3177		
50.	Larry Stepp	3122 Oak Hill Rd.	Carrollton, TX 75007-R	R	5/81	245-7647		
51.	L. Lee Thomas*	5327 LaSalle St.	Lincoln, NE 68516	R	9/81	489-3855		
52.	Boyd E. Thompson	1201 No. 67th St.	Lincoln, NE 68505	R	6/81	467-1087		
53.	Steve & Adelita Traudt	2726 Washington St.	Lincoln, NE 68502	R	2/82	435-7617		
54.	Scott Underwood	1525 So. 25th St.	Lincoln, NE 68502	R	1/81	477-6315		
55.	Ronald B. Weys*	940 Colony Ln.	Lincoln, NE 68505	R	1/82	464-1449		
56.	Scott Wareham	639 Mulder Dr.	Lincoln, NE 68510	R	1/82	483-5545		
57.	Dr. Morris Weiss	2134 Albright Ave.	Upland, CA 91786	R	10/81			
58.	Dean White	1417 No. 32nd St.	Lincoln, NE 68503	R	1/81	474-0503		
59.	Ed Woerner	419 So. 48th St.	Lincoln, NE 68510	R	8/81	485-4452		

Newsletter subscribers are not included. Expiration date is the month and year that present term of membership ends. R = Regular Member (\$14.00) F = Family Membership (\$16.00). \* = Club Officer.

PRAIRIE ASTRONOMY CLUB  
MEMBERSHIP ROSTER, January 15, 1981

Name	Address	City-State-Zip	Class	Exp.	Telephone
1. Donn Baker	2616 No. 59th St.	Lincoln, NE 68507	R	8/81	466-4309
2. Walter Baumann	2305 Mari Lynn Ave.	Lincoln, NE 68502	R	4/81	423-5740
3. Janet Beason	7230 Eastborough Ln.	Lincoln, NE 68508	R	2/81	464-1950
4. Michael Benes	722 Hill St.	Lincoln, NE 68502	R	12/81	432-9179
5. Roger Besch	1030 No. 78th St.	Lincoln, NE 68505	R	5/81	467-1532
6. Felix Cavosie	911 Division St.	Hurley, MI 54534	R	2/82	-----
7. Marc Cherry	654 E. 2nd St.	Hickman, NE 68372	R	8/81	792-2906
8. Dr. John Clothier	355 So. Cotner Blvd.	Lincoln, NE 68510	R	9/81	488-5608
9. Andy Corkill	2220 So. 49th St.	Lincoln, NE 68506	R	3/82	488-1096
10. Norma Coufal	1921 Beatrice St.	Lincoln, NE 68506	R	6/81	483-5685
11. Ed C. Epp	Goshen College	Goshen, IN 46526	R	2/81	-----
12. Harlan Franey	1734 So. Cotner Blvd.	Lincoln, NE 68506	R	1/82	488-0085
13. Norman Frerichs	1423 Lincoln St.	Beatrice, NE 68310	R	8/81	-----
14. Marvin Garber	2818 Everett St.	Lincoln, NE 68502	R	10/81	435-8657
15. Russ Genzmer	5230 Cooper Ave.	Lincoln, NE 68506	R	1/82	488-4232
16. Jeff Goff	710 8th St.	Milford, NE 68405	R	12/81	761-2337
17. Roger Grant	3333 So. 44th St.	Lincoln, NE 68506	R	10/81	-----
18. Dick Hartley	320 Wedgewood Dr.	Lincoln, NE 68510	R	10/81	489-4105
19. Bev Hetzel	1413 G Street	Lincoln, NE 68508	R	12/81	-----
20. Duane Hutchinson	3445 Touzalin Ave.	Lincoln, NE 68507	R	1/82	466-4988
21. Richard Johnson	1860 Pawnee St.	Lincoln, NE 68502	R	9/81	423-6726
22. Steve Keil	2709 Arlington St.	Lincoln, NE 68502	R	8/81	423-4114
23. Werner Klammer	1648 No. Columbia St.	-Seward, NE 68434	R	9/81	-----
24. David Knisely	1616 No. 14th St.	Beatrice, NE 68310	R	12/81	472-0424
25. Kenneth Kopta	1544 Crestline Dr.	Lincoln, NE 68506	R	3/82	489-3005
26. Jerry Kroeger	RFD #8	Lincoln, NE 68506	R	4/81	489-8168
27. John Lamborn	3910 No. 62nd St.	Lincoln, NE 68507	R	2/82	466-2878
28. John Lammers*	1007 8th St.	Fairbury, NE 68352	R	12/81	476-2583
29. Brad Leseberg	824 I St.	Fairbury, NE 68352	R	11/81	-----
30. Allan Logan	5577 Rice Dr.	#98007 Colony, TX 75056	R	6/81	-----

## Did Man -- Literally -- Fall To Earth From The Sky?

Is it possible that man's most distant single-celled ancestors, as well as the air and water enveloping the Earth, fell from the sky in the form of comets billions of years ago?

Such a possibility was, in fact, raised at a December conference on comets and the origin of life held at the University of Maryland in College Park.

It is generally assumed that the Earth was originally a bare sphere with no atmosphere. Most geologists believe that the gases and water vapor that formed the atmosphere and filled the oceans came from within the Earth in an early period of intense volcanic activity. It has been thought that life originated when organic molecules in a primordial "soup" organized themselves into self-replicating units.

John Oro of the University of Houston proposed a number of years ago that impacting comets had helped provide the starting materials of life, based on the fact that comets contain grains of carbon-rich material. At the Maryland meeting, however, far bolder proposals were debated-- that life itself, as well as the Earth's air and water, fell in the form of comets.

They did not win wide support. But neither did many of the less dramatic proposals that were discussed, largely because not enough is known about comets to resolve such disputes.

It is not even clear, for inst-

ance, whether some, or even all, meteorites and asteroids are the remains of comets whose icy, volatile components have boiled off. At the conference Dr. Fred L. Whipple, former director of the Smithsonian Astrophysical Observatory, confessed that this question had troubled him for years.

Dr. Whipple is known for describing comets as "dirty snowballs". Like many other astronomers, however, he suspects that comets and asteroids are two distinct classes of object.

Dr. A. H. Delsemme of the University of Toledo in Ohio proposed that the great outer planets Uranus and Neptune were giant, solidified masses of comets. According to this hypothesis, Jupiter and Saturn, like the innermost "terrestrial" planets, were initially formed from a swirling nebula of dust and gas, but were then covered with a "veneer" of cometary material.

It then may have taken perhaps a billion years before a sufficient number of comets had hit the Earth to produce enough air and water for life to exist. This would mean that life could not have begun to evolve until about 3.5 billion years ago -- the age of the oldest fossil evidence for its existence.

That life may have been brought by comets from afar was argued by Dr. Chandra Wickramasinghe of University College in Cardiff, Wales, in a hypothesis he developed with Sir Fred Hoyle.

## At Last Month's Meeting...

The club logo, affixed to shirts, made its first appearance. (This month, it appears for the first time on THE PRAIRIE ASTRONOMER). It is also gracing our club stationery.

Most who purchased their club shirts received them at the December meeting, however, some were turned away because of a shortage of "Large" shirts. This is temporary, as more are on the way.

A letter has been sent to Cablevision thanking them for carrying the "live" transmission of the Voyager 1 Saturn flyby.

A letter was received from the editors of "Deep Sky Monthly" in Ohio. They are attempting to fill a void by publishing a book of "deep sky objects as seen by small telescopes (less than 6 inches aperture)." The letter solicited pencil drawings of such objects for publication. Ron Veys has the address if you should care to contribute.

Russ Genzmer suggested that PAC set up a display booth for the Mid-states Convention, which is to be held June 5-7 at Nebraska Wesleyan. Earl Moser commented that the PAC had not recently been involved in putting any displays into Regional Conventions. There seems to be (as yet unfocused) general interest in preparing such a display for this one.

Jeanne Miller is checking into a possible tour of the Omni Theater in Hutchinson, Kansas, for the 10 or so members who expressed an interest in organizing a tour. She is checking into "cheap" motels in the area.

Jeanne also announced her intentions to join her husband in Minneapolis, to which he is moving now. She expects to leave Lincoln in May. Several members, having found an active Program Chairperson, and being reluctant to lose her, expressed the sentiment that they saw no reason why, just because her husband was moving, she had to also. (Alternatively, perhaps she could mail in programs from Minneapolis. Some people give up hard.)

The program consisted of Tips for New Telescope Owners. (Some non-members heard the publicity and made the trek to Hyde to hear these pearls of wisdom.) They heard such nuggets as:

Rick: "Only an astronomer can get turned on by the centerfold in the January SKY & TELESCOPE."

Rick: "M-11 is easy to see...but not now."

Ron: "If the telescope manufacturer advertises how much power it has, don't buy it!"

Dave Knisely: "If you got an eyepiece sun filter, throw it away."

Horror stories concerning beginning telescope users were traded, followed by adjournment and general pandemonium.

*(Ed. note: Preceding was excerpted from the Official Club Minutes, as prepared by Secretary Mertson Sprengel. It is offered in the hope that non-attending members will read it, and see what they miss.)*

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**January Meeting, from Page 1...**

films, "Space Science: Galaxies and the Universe", in color, and "Exploring Space: Beyond the Solar System", which should be especially relevant with the "realm of the galaxies" coming into view soon for deep sky observers.

Jeanne Miller also reports that the Large T-shirts have now been back-ordered a second time, with four of them still to arrive. Anyone who wishes to pay for their shirt now will receive personal delivery service from Jeanne upon their arrival.

Jeanne also has written letters to both the Omni Theater in Hutchinson, Kansas, and the Hutchinson Chamber of Commerce in quest of information about "cheap" places to stay.

Details at the January meeting.

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**"HEAVIEST" STAR-- from Page 3**

The scientists believe a star-like patch of light known as R136a is in fact a massive star 3,500 times heavier than the sun and with a radius 120 times as large.

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**Astronomical Calendars, Anyone?**

If more than 5 people are interested, we can order the 1981 Astronomical Calendar books for \$6.40 each. We will have an example at the January meeting, and will take orders if enough people want the books.

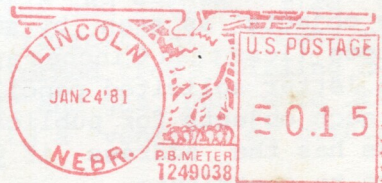
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